APPLICATIVES IN THEIR STRUCTURAL AND THEMATIC FUNCTION: A MINIMALIST ACCOUNT OF MULTITRANSITIVITY

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by
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This dissertation investigates the syntactic architecture of applicative constructions in the research tradition initiated by Marantz 1993, in which a light verb head, the so-called “applicative” head, is charged with two conceptually different tasks: syntactically licensing an extra object, and assigning a thematic role.

Using data from languages with overt (affixal and non-affixal) and non-overt applicative morphology, I expand Georgala’s et al. (2008) approach to applicative constructions, according to which the applicative projection is uniformly above the lexical VP. Under this approach, which I call raising/thematic applicative hypothesis, the contrast between Pylkkänen’s (2002, 2008) high- and low-type applicatives is that while thematic applicatives introduce an additional argument above VP, as per Pylkkänen’s original analysis, raising applicatives function as an expletive head, introducing no additional argument but serving as a licenser for the highest eligible DP selected by the lexical verb. This analysis preserves Pylkkänen’s insight that the core arguments in low applicatives (recipient and theme) are introduced in the domain of the lexical verb, while allowing for a single structural position for applicative heads.

Applicative constructions are subject to diverse constraints (e.g., on word order, passivization, pronominalization, wh-movement, etc.), which vary depending on the language and on the type of applicative. Thus, they provide a fascinating empirical challenge for any syntactic approach that strives for simplicity and transparency such as the raising/thematic applicative hypothesis. This dissertation focuses on showing how the raising/thematic applicative hypothesis accounts for passive movement, based on the key distinction between symmetric
(both objects get passivized or neither object gets passivized) and asymmetric (either the direct object or the extra object gets passivized). Particular emphasis is given to applicative constructions in German and Greek, which contribute intriguing data, thus constituting interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality. Accounting for this crosslinguistic and intralinguistic variation has been one of the main goals of this dissertation.
Efthymia (Effi) Georgala graduated with Honors from the National and Kapodistrian University of Athens, where she earned a diploma in German Studies in 1998. After spending her senior year in exploring her newfound interest in Computational Linguistics at the Technical University of Athens (NTUA), she joined the Institute for Natural Language Processing (IMS) of the University of Stuttgart as a fellow of the German Academic Exchange Service (DAAD), doing research and course work in Computational Linguistics. From 2001 through 2004 she was a fellow of the German Research Foundation (DFG) and a member of the Graduiertenkolleg “Linguistic Representations and their Interpretation” of the University of Stuttgart. In the fall of 2004 she entered the Ph.D. program of the Department of Linguistics, earning her M.A. in Linguistics with a minor in Cognitive Science in 2009.
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CHAPTER 1
INTRODUCTION

This dissertation presents an empirically based crosslinguistic investigation of applicative / extra-object constructions: structures with a direct object and an extra argument. It develops a new framework for describing such constructions, which I call the raising/thematic applicative hypothesis. The main theoretical question addressed in the dissertation is whether all applied objects within a language but also crosslinguistically are associated to an extra head above the VP, and what the nature of this head is.

Marantz in his influential 1993 paper proposes that extra-object constructions such as the Chaga benefactive construction in (1) and the English possessor/recipient double object construction (DOC) in (2) share the same layer of structure associated with the label Applicative Phrase (ApplP) (3). In (3) the light applicative verb APPL selects the lexical VP as its complement.

(1) *Chaga benefactive applicative* (Marantz 1993:121)

N-a-i-lyi-i-a m-ka k-elya
FOC-SP-PRS-eat-APPL-FV wife food
‘He is eating food for his wife.’

(2) Nick sent Mary an email.

(3) \[
\text{VP IO } \left[ \text{V} \cdot \text{APPL } \left[ \text{VP DO V} \right] \right] \] (Marantz 1993)

Marantz’s analysis crucially differs from accounts, such as Kayne’s (1984) small clause analysis in (4a) and Pesetsky’s (1995) cascade analysis in (4b), which claim that DOCs involve extra structure within the lexical VP.

The two traditions are combined in Pylkkänen’s (2002, 2008) theory, which argues that applicatives come in two varieties: high and low. According to Pylkkänen, high and low applicatives differ semantically, and consequently syntactically. High applicatives (5a, 6a) relate new event participants, such as beneficiaries, maleficiaries, instruments, locatives to the event described by the lexical VP. Low applicatives (5b, 6b), on the other hand, denote a transfer-of-possession relation between two individuals, namely the theme and the applied argument (goal/source).

(Pylkkänen 2002, 2008)

(5)

a. Syntactic structure for high applicatives:

\[
\text{[Voice}\text{DPAGENT [Voice}^\text{Voice [ApplDPBNF/LOC/INSTR... [Appl}^\text{Appl [VP V DP]]]]]}\]

b. Syntactic structure for low applicatives:

\[
\text{[Voice}\text{DPAGENT [Voice}^\text{Voice [VP V [ApplDPGOAL/SOURCE [Appl}^\text{Appl DP THEME]]]]]}\]

Pylkkänen provides the following semantics for these two kinds of applicatives.

(Pylkkänen 2002:21)

(6) a. Semantics for high applicatives

\[\lambda x.\lambda e. \text{APPL}(e,x)^1\]

b. Semantics for low applicatives

Low-APPL-TO (Recipient applicative):

\[\lambda x.\lambda y.\lambda f<e,s,t>>.\lambda e. f(e,x) & \text{theme} (e,x) & \text{to-the-possession}(x,y)\]

---

1 APPL collapses APPL\_BENEFACTIVE, APPL\_INSTRUMENT, APPL\_LOCATIVE, etc.
Pylkkänen’s treatment of applicatives in (5-6) gives rise to two diagnostics for distinguishing between high and low applicatives: (i) Only high Appl can combine with unergatives, since the semantics of low applicatives stipulates the presence of a theme, and (ii) only high Appl can combine with static verbs (e.g., *hold*), since the type of event denoted by a static predicate is inconsistent with the theme undergoing change of possession.

Although Pylkkänen’s characterization of applicatives has been very influential (Legate 2002, McGinnis 2002, Cuervo 2003, Doggett 2004, Jeong 2006, Citko 2011, among many others), it faces morphological, syntactic, and semantic challenges. This dissertation focuses on the morphological and syntactic challenges to an approach like Pylkkänen’s, but I also touch on semantic challenges to Pylkkänen’s theory in point three below.

1. **Morphological challenge:** On the assumption that head movement involves uniform raising and adjacency to the left of the immediately dominating head (Kayne 1994, Baker 1996, Matushansky 2006, among others), Pylkkänen’s approach predicts that overt applicative heads realized as syntactically combined verbal affixes should be realized as suffixes to the verb in high applicative constructions and as prefixes in low applicative constructions. As is shown in detail in Chapter 2, although high applicative heads in the expected morphological position are robustly attested crosslinguistically, there are no clear candidates for a specialized overt low applicative head, either in situ or as a prefix.

2. **Syntactic challenge:** Pylkkänen (2002, 2008), Georgala et al. (2008), and Paul and Whitman (2010) show that VP adverbial modifiers (adverbial quantifiers, manner/frequency adverbs) may intervene between IO and DO in low applicative constructions (see Section 2.3 for the Mandarin data, Section 2.4.1 for the English data, Section 3.2.3.2.1 for the German data, and Section 4.3.1.1 for the Greek data). Under the assumption that adverbial quantifiers and manner/frequency adverbs are adjoined to VP, this is a problem for Pylkkänen’s low applicative analysis, where IO and DO are part of the same minimal constituent, namely low ApplP.
3. **Semantic challenge**: As Larson (2010) shows, by disconnecting IO from the event structure of the verb, Pylkkänen’s low applicative semantics in (6b) predicts the incorrect inference from (7a) to (7b). “John’s writing a letter, and that letter’s coming into Mary’s possession, does not entail that John wrote the letter to Mary” (Larson 2010:702).

(6b) **Semantics for low applicatives**

(Pylkkänen 2002:22)

Low-APPL-TO (Recipient applicative):

\[\lambda x.\lambda y.\lambda f <e,s,t> . \lambda e. f(e,x) \& \text{theme}(e,x) \& \text{to-the-possession}(x,y)\]

(7) a. John wrote a letter and Bill gave Mary that letter.  

b. John wrote Mary that letter.

A standard neo-Davidsonian analysis blocks this undesirable inference. As Larson points out, the conjunction in (8a) does not entail (8b) since Mary is related to the giving event e’, and not to the writing event e, and there is no way of deducing the latter from the former.

(8)  

(Larson 2010:702)

a. \(\exists e[\text{writing}(e) \& \text{Agent}(e, John) \& \text{Theme}(e, \text{that_letter})] \& \exists e'[\text{giving}(e') \& \text{Agent}(e', Bill) \& \text{Theme}(e', \text{that_letter}) \& \text{Goal}(e', Mary)]\)

b. \(\exists e[\text{writing}(e) \& \text{Agent}(e, John) \& \text{Theme}(e, \text{that_letter}) \& \text{Goal}(e, Mary)]\)

Note, however, that Pylkkänen’s low applicative structure in (5b) cannot be captured by the neo-Davidsonian representation in (8b), as (8b) is really the semantic representation of the high applicative structure in (5a). Compare (8b), repeated below for convenience, to (9), the neo-Davidsonian representation of *John wrote that letter for Bill*, to which Larson (2010) assigns Pylkkänen’s high applicative structure: Other than the difference in the thematic role of the second DP (*Goal* in 8b and *Beneficiary* in 9), there is no compositional difference...
between the two representations.

(8b) $\exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that\_letter}) \& \text{Goal}(e, \text{Mary})]

(9) $\exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that\_letter}) \& \text{Beneficiary}(e, \text{Bill})]

As Larson (2010) observes, a causative analysis (cf. Krifka 1999, Harley 2002, Beck and Johnson 2004, Bruening 2010b, among others), as in (10), could be an alternative to the standard neo-Davidsonian analysis, which blocks the unwanted entailment.

(10) $\exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that\_letter})] \& \exists e'[\text{CAUSE}(e, e') \& \text{to-the-possession-of}(e', \text{that\_letter}, \text{Mary})$ (Larson 2010:703)

The main argument in support of a causative analysis of DOCs comes from again-modification. In particular, as Beck and Johnson (2004) show, a DOC, modified by again, is ambiguous between two readings: a repetitive reading (11’) and a restitutive reading (11’’).

(11) Thilo gave Satoshi the map again. (Beck and Johnson 2004:113)

(11’) Thilo gave Satoshi the map, and that had happened before.

(11’’) Thilo gave Satoshi the map, and Satoshi had had the map before.

Beck and Johnson argue that a causative (small-clause-type) analysis provides a straightforward account of this ambiguity: Again can either operate on the CAUSE predicate, giving the repetitive reading, or the “to-the-possession-of”/HAVE predicate giving the restitutive reading.

Larson (1988, 2010) and Pesetsky (1995) argue against a causative analysis, citing evidence from nominalization (Pesetsky 1995), and binding theory (Larson 1988, Pesetsky...
1995). A causative analysis of DOCs treats the head of the small clause constituent of the causative structure as an independent predicate. Such an analysis would basically posit Pylkkänen’s low Appl as a predicate (compare 12a, which illustrates Pylkkänen’s low applicative semantics with a single event, to 12b, which illustrates a causative analysis with two events, e and e’).

(12) John wrote Mary that letter.

a. *Pylkkänen’s low applicative semantics, as presented by Larson (2010:702)*

\[ \exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that_letter})] \& \\
\text{to-the-possession-of}(e', \text{that_letter}, \text{Mary}) \]

b. *Causative analysis of DOCs, as presented by Larson (2010:703)*

\[ \exists e[\text{writing}(e) \& \text{Agent}(e, \text{John}) \& \text{Theme}(e, \text{that_letter})] \& \\
\exists e'[(\text{CAUSE } (e, e') \& \text{to-the-possession-of}(e', \text{that_letter}, \text{Mary})] \]

But Beavers’ (2011) detailed semantic theory of ditransitive predicates in English provides additional evidence in support of the basic insight shared by the causative, small clause, and Pylkkänen’s analysis of recipient goal-type ditransitives. In particular, Beavers shows that although for many ditransitives a result state of simple possession is a cancelable inference, all ditransitives nonetheless entail at least some non-cancelable result involving the goal argument, though there is micro-variation in what the result is. I follow Beavers (2011) in the view that low (raising) applicatives always entail some non-cancelable result, and this is what the semantics of low (raising) applicatives should derive.

For the purposes of this dissertation, I take merging the two objects in the specifier and complement of the lexical VP to suggest that there is an underspecified relationship between the two objects in raising applicative constructions, accounting thus for the *again* facts in (10-11). Nevertheless, I do not make a commitment as to what the nature of this relationship is.
In this dissertation I expand on the raising/thematic applicative hypothesis originally proposed in Georgala et al. (2008). What the raising/thematic applicative hypothesis contributes to the discussion about the structure of extra-object constructions is that it reconciles the evidence that extra-objects are merged in two positions (Pylkkänen 2002, 2008), as in (5), with the evidence that there is a single position for applicative heads (Marantz 1993), as in (3). In particular, the raising/thematic applicative hypothesis claims that there is only one applicative head and it always appears above the lexical VP. Yet, the two types of applicatives do exist: the two patterns involve different thematic roles and exhibit distinct semantic and syntactic behavior, as will be shown in detail in Chapters 2-4. The way the raising/thematic applicative hypothesis deals with this seeming contradiction is by positing a single structural position for applicative heads above the lexical VP with two subtypes:

a. *Thematic applicatives*, which introduce an additional argument above the lexical VP, as per Pylkkänen’s (2002, 2008) high applicative analysis in (5a).

\[(13) \left[ _{v_P} \text{SUBJ} \left[ _{v'} v \left[ _{\text{ApplP}} I_{\text{BNF/LOC/INSTR... \text{ApplP}}} \left[ _{\text{ApplP}} \text{Appl} \left[ _{\text{VP}} V \text{DO} \right] \right] \right] \right] \right]\]

b. *Raising applicatives*, which function as Case-licensing heads, attracting the IO from its base position in the VP to their specifier. As will be shown in the subsequent chapters, the exact nature of the licensing relationship between the raising applicative head and the recipient argument is subject to crosslinguistic variation.

\[(14) \left[ _{v_P} \text{SUBJ} \left[ _{v'} v \left[ _{\text{ApplP}} I_{\text{REC}} \left[ _{\text{ApplP}} \text{Appl} \left[ _{\text{VP}} \text{tO} \left[ _{v'} V \text{DO} \right] \right] \right] \right] \right] \right]\]

---

^2Raising Applicative corresponds to the label Expletive Applicative used in Georgala et al. 2008. Thanks to Julie Legate for suggesting this term.
This single structure / dual function analysis establishes a fundamental analogy between 
the applicative head in extra-object constructions and the Voice (Kratzer 1996) or v (Chomsky 
1995) head in the extended verbal projection: both types of head may establish a semantic 
relation between an “extra” argument and the event denoted by the verbal projection they select, 
and both may serve as syntactic licensers for DPs more deeply embedded in the verbal 
projection.

Because many relevant facts in the study of applicatives come from languages that are 
typologically different from English and other commonly studied languages, this dissertation is 
oriented toward crosslinguistic comparison. To carry out such comparison I adopt the most 
recent version of generative grammar known as the Minimalist Program. For the purposes of the 
present work, I will adopt the following hypotheses, which I will assume throughout.


(15) *Agree*

The probe P agrees with the closest matching goal in D.

a. Matching is feature identity.

b. D is the sister of P [D = c-command domain of P].

c. Locality reduces to closest c-command.

2. In the configuration in (16) Agree may first apply between Y and DP₁, then between X and 
   DP₂.
In typical A-licensing applications of Agree there is at most one licensing head per cyclic domain: for example, only $v$ triggers Agree in transitive $v$Ps, and only $T$ does so in the next cyclic domain, CP. This is a consequence of the fact that only $vP$ is a phase: the Phase Impenetrability Condition (Chomsky 2001) disallows “nesting” Agree, where, for example $T$ Agrees with a DP c-commanded by $v$. However, applicative structures introduce a second Agreeing head, Appl, within the domain of a single phase, $vP$. I take here the position that ApplP is itself not a phase (compare to McGinnis 2001 and subsequent work).

3. EPP is a generalized Occurrence (OCC) or Edge feature that forces the projection of a specifier at the edge of the relevant head (Chomsky 2000, 2001, 2005). In this sense, it does not specifically refer to the traditional EPP (i.e., the requirement for an overt external subject at [Spec, TP]), but it applies to any functional head (cf. Landau 2007). A head can have an EPP feature either by virtue of being a phase head ($v$, $C$) or by virtue of inheriting it from a phase head (cf. Citko 2011).

4. Appl has an EPP feature by virtue of inheriting it from $v$ (cf. Citko 2011).

5. EPP-triggered movement is uncoupled from Agree, i.e., the EPP feature associated with Agree does not necessarily have to be satisfied by moving to the specifier of its head the DP with which the Probe establishes the Agree relation (Collins 1997, Hiraiwa 2001, Bowers


8. An inactive DP is a DP whose structural Case feature has been valued and deleted. An inactive DP is frozen in place and cannot enter into an Agree relation of the same type (Chomsky 2000, Bowers 2010, Citko 2011, among others). An inactive DP, thus, does not constitute an intervener for Agree and does not violate Shortest Move / Relativized Minimality (cf. Bowers 2010, Citko 2011, Haddican and Holmberg 2011, among others). This assumption deviates from Chomsky’s (2000) Activity Condition.


This dissertation is organized as follows. In Chapter 2 I provide compelling evidence based on the morphological exponence of the applicative head to motivate the raising/thematic applicative hypothesis. Furthermore, I present a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument, focusing on passive.

Chapters 3 and 4 present a detailed analysis of applicative constructions in German and Greek, languages which contribute intriguing data, constituting thus interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality. In particular, in Chapter 3 I provide a typology of German dative extra-objects, and argue that German, a

³ In particular, in Collins 1997 and Hiraiwa 2001 it is argued that there is no intrinsic ordering as to which feature has to probe first, if more than one feature are located in a single head/probe.
language with inherent dative Case and asymmetric theme passivization has raising and thematic applicatives, as well as dative oblique arguments. In the second part of the chapter I discuss the base order of objects in German double object constructions, and introduce strong evidence from stranding and split topicalization data to support the view that German applied arguments are merged higher than direct objects, showing thus that the base order \(<IO, DO>\) in German applicative constructions conforms to the crosslinguistic generalization about the order of objects in DOCs. This is also the order predicted by the raising/thematic applicative hypothesis.

The goal of Chapter 4 is to argue that Greek recipient and benefactive/malefactive double object constructions show a classical contrast between thematic and raising applicative constructions. Syntactic and semantic differences between the constructions result from whether the applicative head introduces an argument or not. This chapter also provides an account of the difference between three types of recipient extra-objects in Greek, namely accusative Case-marked, genitive Case-marked, and complements of the preposition \(se\ ‘to’\), in terms of how they are syntactically licensed. Further, given the conflicting empirical evidence about the constraints on theme passives of double object constructions in Greek, this chapter presents the results of two magnitude estimation experiments, which were conducted to test competing accounts. The chapter closes with a discussion of Greek “ethical datives”, which I argue should not be analyzed as applied arguments, thus supporting an economical theory of applicative constructions with no more than a single applicative head.

To sum up, this dissertation aims to provide a formal typology of applicatives and show how this typology coupled with independently motivated principles of syntactic theory yields a coherent picture of applicatives, consistent with Minimalist assumptions.
CHAPTER 2  
A CROSSLINGUISTIC TYPOLOGY OF APPLICATIVES

2.1 Introduction

In this chapter I present a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument. Furthermore I provide empirical evidence from languages with overt and non-overt applicative morphology in support of the raising/thematic applicative hypothesis. Specifically, I argue that there is no crosslinguistic evidence for the existence of an overt morpheme corresponding to Pylkkänen’s (2002, 2008) lower applicative head. In Sections 2.2 and 2.3 I discuss what overt affixal and non-affixal applicative morphology tells us about the position of applicative heads. In Section 2.4 I discuss one of the most interesting points of variation among applicative languages, namely passivization. I show how the different types of passive and their interaction with applicative structure can be analyzed within the framework of the raising/thematic applicative hypothesis. Section 2.4 concludes.

2.2 Overt Applicative Morphology and the Position of Appl4

In Chapter 1 I proposed that the projection involved in licensing extra-object constructions is uniformly above VP. The contrast between thematic and raising applicatives is that while the former introduce an additional argument above the lexical VP, as per Pylkkänen’s original high applicative analysis, the latter function as what one might call an expletive head, introducing no additional argument but serving as licenser for the highest eligible DP selected by the lexical

4 Parts of this section are based on arguments, first appeared in Georgala, Paul and Whitman 2007.
verb. Since this analysis posits an applicative head only in the position above VP, it predicts that overt morphology associated with a true applicative head should be found only in the position above VP, or a location derivable from the position above VP under standard assumptions about head movement. On the assumption that head movement involves uniformly raising and adjunction to the left of the immediately dominating head (Kayne 1994, Baker 1996), or movement into a specifier of the immediately dominating head followed by morphological merger (Toyoshima 2000, Matushansky 2006), my approach also predicts that overt applicative heads realized as syntactically combined verbal affixes should be uniformly realized as suffixes to the verb.

As I show in this chapter, much convergent evidence suggests that this is correct. First, as Emonds and Whitney (2006) point out, applicative affixes of all types are overwhelmingly suffixes (1). Again, this is expected if the applicative originates as a head selecting the VP, but it is not predicted if the applicative head is a low applicative selected by V, in Pylkkänen’s sense.\footnote{Baker also proposes that the suffixal pattern in (1) is derived by raising and adjoining the verb to the higher applicative head, the benefactive –er.} \footnote{Koopman and Szabolcsi (2000) and Koopman (2005) propose a theory according to which a morphologically overt head originating lower in the structure surfaces to the left of any higher overt head into whose specifier its phrasal projection moves. Although Koopman and Szabolcsi (2000) and Koopman (2005) do not explicitly discuss applicatives, within their theory it is predicted that, when overt, Pylkkänen’s low applicative head should be prefixal, whereas the high applicative head should be suffixal.}

\begin{enumerate}
\item (Kimenyi 1980:32)
\begin{tabular}{l}
Umukoôbwa a-ra-som-\textbf{er}-a umuhuûngu igitabo \\
girl she-PRES-read-\textbf{BEN}-ASP boy book \\
\end{tabular}
\begin{tabular}{l}
\textquoteleft\textquoteleft The girl is reading a book for the boy.\textquoteright\textquoteright
\end{tabular}
\end{enumerate}

As Baker (1996) points out, though, applicative morphemes may also be prefixal, appearing to the left of the verb and any incorporated material (2).
I argue that in contrast to example (1), where –er is merged in Appl, the prefix ko- in example (2) is not a reflex of the applicative head, but rather an incorporated adposition. Immediate support for this view is given by the fact that, in terms of its lexical semantics, the morpheme glossed APPL (applicative) in (2) does not correspond to a low applicative in Pylkkänen’s (2002, 2008) classification. The argument it is associated with, ‘underneath the sword’, is a location argument, and thus in Pylkkänen’s framework should be associated with a high, not a low applicative projection. Thus even under Pylkkänen’s framework, the applicative morpheme in (2) cannot be analyzed as the spellout of a low applicative head.

I suggest instead the following analysis of prefixal applicatives such as (2), which I spell out in more detail below. As shown in (2’), the derivation of example (2), the verb raises above Appl and the adposition incorporates into the verb. Crucially, this analysis of prefixal applicatives is consistent with the applicative head being VP-external.

Support for the P-incorporation analysis of prefixal applicatives is provided by cases where the applicative morpheme shows near or complete homophony with freestanding adpositions, as in the case of Abaza locative applicatives discussed by O’Herin (2001) (3-4).
Abaza incorporated Ps show the same pattern of agreement as freestanding postpositions, a fact difficult to account for on any other but an incorporation account.

(3) **Abaza locative applicative**  
\[ d-\text{fa-}[\text{hə-dzqa}]-yə-r-gəl-t' \]  
\( A3\text{SG.H-DIR[P1-beside]}-C3\text{SG.M-CSE-stand-DYN} \)  
‘He caused him/her to stand next to us.’

(4) **Abaza locative postposition ‘beside’**  
\[ [\text{PP a-}3\text{gəra a-dzqa}] \]  
the-smithy 3SG.N-beside  
‘beside the smithy’

Furthermore, Abaza prefixal applicatives may be multiple, as example (5) shows.

(5) **Abaza multiple prefixal applicative**  
\[ s-\text{pha ayʔazaʔw a-stol da-y-z-a-k”-s-c’a-y-t’} \]  
1SG-daughter doctor the-table \( A3\text{SG.H-P3SG.M-BEN-P3SG.N-LOC.on-E1SG-put-PRS-DYN} \)  
‘I put my daughter on the table for the doctor.’

McGinnis (2005) points out that since high applicatives establish a semantic relation between an individual (individual-denoting specifier) and an event (event-denoting complement), they should be able to merge with other high applicative phrases, which also denote events. Note that Abaza multiple applicatives are all of the high type (benefactive, instrumental, locative). In general, the best attested multiple applicative constructions involve multiple high-type applicatives, such as the multiple suffixal applicative construction from Kinyarwanda in example
(6), where an instrumental applicative ($iish$-) combines with an applicative expressing cause/goal ($ir$-).

(6) *Kinyarwanda multiple high+high suffixal applicative* (Kimenyi 1980)

U-ra-andik-$iish$-$ir$-iz-a iyo kárámu íki
2S-PR-write-INSTR-APPL-ASP that pen what
‘Why are you writing with that pen?’

Combinations of high and low applicatives also occur, as in the Kinyarwanda recipient-beneficiary example in (7). A high Appl head (benefactive here) merges with a VP containing a low Appl head, as with any other VP.

(7) *Kinyarwanda multiple high+low suffixal applicative* (Kimyeni 1995)

Umugóre a-ra-som-$er$-$er$-a umugabo abáana igitabo
woman she-PRES-read-APPL-APPL-ASP man children book
‘The man is reading the book to the children for the man.’

In the raising/thematic applicative framework, the applicative head in such cases introduces an argument and syntactically licenses a DP in the verb phrase under Agree. Note that both applicative affixes in (7) are homophonous.7 I take this to suggest that the structure of (7), shown in (7’), involves Appl iteration, which happens only for licensing purposes, not for introducing

7 In Kinyarwanda the lowest applicative head is null with prototypical ditransitive verbs such as $há$ ‘give’ and $éerek$ ‘show’, but I still take examples such as (1) to have the same structure as (7), where the lower applicative head is overt.

(1) *Kinyarwanda multiple high+low suffixal applicative* (McGinnis 2005:191)

Umugóre a-rá-hé-$er$-á umugabo ímbwa ibíryo
woman she-PRES-give-BEN-ASP man dog food
‘The woman is giving food to the dog for the man.’

(1’) $\left[ v [\text{AppP} \cdot \text{er} \cdot [\text{AppP} \text{umugabo} [\text{AppP} \text{Appl} [v \text{imbwa} [v \cdot \text{hé-ibíryo}]]]]]]$
new arguments. Thus, the lower Appl introduces the benefactive DP, *umugabo* ‘man’, while the higher Appl, the iterated one, is a pure licencer.

(7’) \[ vP \[ ApplP -er- [ApplP umugabo [Appl’ -er- [VP abáana [V’ -som- igitabo]]]]] \]

The iterated applicative analysis explains why the exact same homophonous applicative suffix, namely –*er*, is used twice. Crucially, multiple applicative constructions of this type never occur with two distinct affixes, one a dedicated low-type affix, introducing only recipient arguments, and the other a dedicated high-type affix.

According to Gerdts (1988) and Gerdts and Kiyosawa (2007), Halkomelem, a Salish language, has distinct applicative morphemes to mark recipients (8a) and beneficiaries (8b). However, Halkomelem does not allow multiple applicative constructions (Samkoe 1994) (9), and as the examples in (8) below show, both applicative morphemes are suffixes. In other words, although there are distinct applicative affixes for these two types of arguments, there is just one position for them, and the affixes are in complementary distribution.

(8) a. ?am:-əs-tal
   give-APPL-RECIP
   ‘give it to each other.’

b. niʔ  ct qʷəl-əlc-tal
   AUX 1PL cook-APPL-RECIP
   ‘We cooked for each other.’
AUX give-APPL-APPL-TR-3ERG DET woman DET dog OBL DET
sò’am?
bone
‘He gave the dog the bone for the woman.’

According to Polinsky (2005), Cahuilla, an Uto-Aztecan language, also has distinct applicative morphemes to mark recipients. But interestingly the low applicative morpheme -max, adding recipient and beneficiary objects, is a suffix (Seiler 1977:137) (10a), and is nearly identical to the verb root -máx- ‘give’. Importantly, in a ditransitive clause with give, the applicative morpheme is not realized overtly (10b).

(10) a. pe-n-séx-max-law-ik
    O-P2-STEM-pos.shift bnf.+-4-nominalis.relativ.incept.
    ‘I go cook it for him.’

    b. náxaaniș me-máx-qa?le súple hé-ʔaʔél ʔéʔkw·ašmal-em-i
    man Oplur.-give-SUFF.s one his-horse to the boy-plur.-o.c.
    ‘The man gave one horse to the boy.’

While the low applicative morpheme is a suffix, the high applicative one, adding locative objects, is a prefix (Polinsky 2005) (11).

(11) péʔ  pi-hiw-qal neykʷálak kavesón
    PRON. local pe2-.-STEM v. itr.-SUFF. durat.
    ‘There on this place did live my great uncle Cabezon.’
This is the opposite of what Pylkkänen’s theory predicts. Assuming head raising adjoins to the left, Pylkkänen’s theory would predict the order Low Appl – V – High Appl on the surface.

Summing up so far, overt morphemes corresponding to high applicatives are robustly attested crosslinguistically. Affixal marking of high applicatives may take the form of suffixes or prefixes; in the latter case the marker is not a reflex of the applicative head, but rather an incorporated adposition.

What would an overt low applicative look like? If we were to find an overt head in Pylkkänen’s low applicative structure, it should be realized as a prefix, given the assumptions outlined above. Above I discussed cases of applicative constructions related with prefixal morphology in Ainu (2) and Abaza (cf. examples 3 and 5), but I argued that these cases are best analyzed as P-incorporation. Furthermore, all the examples from Ainu and Abaza have the semantics of high rather than low applicatives; neither the instrumental applicative in Ainu nor the locative and benefactive applicatives in Abaza express transfer of possession. Candidates for an overt low applicative head other than verbal prefixes would look like the kinds of items that can head syntactic complements of V, such as the second verb in ditransitive serial verb constructions or adpositions. Example (12) from Saramaccan shows a ditransitive serial verb construction with a donatory verb as the second verb.

(12) Saramaccan ditransitive serial verb construction (Veenstra 1996:164)

Mi manda biífi dá hen

1SG send letter give her

‘I have sent letters to her.’

Although (12) is a good candidate for a low applicative construction with an overt applicative head, the second verb, dá ‘give’, does not really show the behavior of a low applicative head.
This is because the c-command relations between the DO *biifi* ‘letter’ and the IO *hen* ‘her’ are reversed from Pylkkänen’s (2002, 2008) low applicative structure, repeated below.

(13) [Voice\#DPAGENT [Voice' Voice [VP V [ApplP DPGOAL [Appl' Appl DP THEME]]]]]

Furthermore, there is consensus in the literature (Dèchaine 1988, Baker 1989, Muysken and Veenstra 1995, among others) that the DO is (at least partly) the argument of the first verb, *manda* ‘send’.

Another candidate for an overt low applicative head is adpositions. Dative adpositions are broadly attested as markers of recipient goals in DOCs. Relying on evidence from quantifier scope, numeral quantifiers, passivization and idioms, Miyagawa and Tsujioka (2004) and Tsujioka (2011) argue that the dative marker *-ni* in Japanese (14) is ambiguous between a structural Case marker and a directional adposition.

(14) *Japanese*  
(Miyagawa and Tsujioka 2004:9)

a. Taroo-ga Hanako-*ni* nimotu-o okutta

    Taro-NOM Hanako-DAT package-ACC sent

    ‘Taro sent Hanako a package.’

b. Taroo-ga Tokyo-*ni* nimotu-o okutta

    Taro-NOM Tokyo-to package-ACC sent

    ‘Taro sent a package to Tokyo.’

The passivization data in (15) illustrate the difference in the categorical status of *Hanako-ni* in (14a) and *Tokyo-ni* in (14b). As shown in (15a), *Hanako-ni* is a DP that is assigned Case, and in passivization this Case gets absorbed. Yet *Tokyo-ni* is a PP, so there is no Case to absorb, and passivization does not apply (15b).
(15) a. Taroo-ga Tokyo-ni nimotu-o okur-are-ta  
    Taro-NOM Tokyo-to package-ACC send-PASS-PAST  
    ‘Taro was sent a package to Tokyo.’

b. *Tokyo-ga Taroo-ni nimotu-o okur-are-ta  
   Tokyo-NOM Taroo-DAT package-ACC send-PASS-PAST  
   (Lit.) ‘Tokyo was sent a package to Taro.’

In Miyagawa and Tsujioka (2004) the IO Hanako-ni is introduced in the specifier of a high applicative head, while under Pylkkänen’s analysis Hanako-ni is merged in the specifier of low Appl. Independently of where IO is merged, what is important for the discussion here is that -ni is not the head of a low applicative projection.8

Possessor dative constructions provide another candidate with adpositions, which may qualify as in situ low applicative heads. Example (16) from Hebrew is analyzed by Pylkkänen as a low applicative construction9, but most importantly Pylkkänen does not analyze the preposition le- ‘to’ as the head of the construction; such an analysis would require raising le- out of ApplP to a landing site in VP below the verb.

(16) Hebrew  
   (Pylkkänen 2002:43)
   Ha-yalda kilkela le-Dan et ha-radio  
   the-girl spoiled to-Dan ACC the-radio  
   ‘The girl broke Dan’s radio on him.’

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8 As noted by Cuervo (2003), the ambiguity of Japanese -ni parallels the ambiguity of Spanish a (1).

(1) Pablo (le) mandó un diccionario a Gabi  
    Pablo CL.DAT sent a dictionary (to/DAT) Gabi  
    ‘Pablo sent Gabi a dictionary.’

Masullo (1992) and Cuervo (2003) argue that a is a case marker in DOCs and a preposition in PCs.

9 Cf. Landau (1999), among others, who argue that example (10) involves possessor raising.
One additional candidate that comes to mind for low applicative heads in situ are dative clitics in languages such as Spanish, in which DOCs have been argued to obligatorily involve clitic doubling. In these structures the claim has been made that the dative clitic is a low applicative head (cf. Cuervo 2003). Masullo (1992), Demonte (1995), and Cuervo (2003), among others, by providing syntactic and semantic evidence, convincingly argue that ditransitive verbs appear in two distinct structures in Spanish: (i) the double object construction, which involves obligatory clitic doubling of IO, and (ii) the prepositional construction, which does not allow clitic doubling. Example (17) suggests that clitic doubling is optional. But, as Cuervo (2003) points out, if the goal a Gabi is replaced with the name of a place, clitic doubling is no longer licit (18b) (cf. Cuervo 2003 for additional evidence).10

(17) Spanish (Cuervo 2003:32)

Pablo (le) mandó un diccionario a Gabi

Pablo CL.DAT sent a dictionary (to/DAT) Gabi

‘Pablo sent Gabi a dictionary.’

(18) Spanish (Cuervo 2003:32)

a. Pablo envió un diccionario a Barcelona

Pablo sent a dictionary to Barcelona

‘Pablo sent a dictionary to Barcelona.’

b. *Pablo le envió un diccionario a Barcelona

Pablo CL.DAT sent a dictionary Barcelona.DAT

‘Pablo sent Barcelona a dictionary.’

10 According to Cuervo (2003), this restriction should not be viewed as a restriction on doubling of inanimate datives, since, as shown in example (1) below, inanimate objects can be clitic-doubled dative arguments in Spanish.

(1) Andrea *(les) habla hasta a las paredes (Cuervo 2003:29)

Andrea.NOM CL.DAT talks even the walls.DAT

‘Andrea talks all the time/would talk with anyone.’
Cuervo (2003) accounts for the difference between the clitic-doubled and the non-clitic-doubled patterns, by assuming that the source of the clitic-doubled alternate is Pylkkänen’s low applicative head, which is absent in the non-doubled alternate. To account for the obligatoryness of clitic-doubled dative arguments in Spanish, Cuervo proposes that the applicative head has a spellout: the dative clitic. Cuervo observes that Spanish is similar to languages where the applicative morpheme is a verbal affix (e.g., Bantu languages), in that affixation follows from the clitic nature of the morpheme, but it differs from them in that Appl varies according to the features of the DP it licenses in its specifier.\(^{11,12}\)

However, on closer examination Cuervo’s (2003) idea of deriving the dative clitic as the head of a low ApplP faces at least two important problems. First, although Cuervo’s low applicative account predicts the right order in Cl\(_{\text{DAT}}\)-V configurations (Cl\(_{\text{DAT}}\) moves in a head-to-head fashion and left adjoins to v), when the DO is also realized as a clitic, as in example (19), there is no straightforward way to derive the order Cl\(_{\text{DAT}}\)-Cl\(_{\text{ACC}}\)-V.

\[(19)\] \textit{Spanish low applicative construction}  
\begin{align*}
\text{Pablo} & \quad \text{me} & \quad \text{lo} & \quad \text{envió} \\
\text{Pablo} & \quad \text{Cl}_{\text{DAT}} \quad \text{Cl}_{\text{ACC}} & \quad \text{sent} \\
& \quad \text{‘Pablo sent it to me.’} \\
\end{align*}

\[(19')\] \text{(based on Cuervo 2003:35)}  
\[
[\text{VoiceP Pablo} \ [\text{Voice'} \ \text{Voice} [\text{vP} \ v \ [\text{envió} \ [\text{ApplP} \ [\text{Appl'} \ \text{me} \ \text{lo}]])])])]
\]

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\(^{11}\) Beyond Spanish, pronominal clitics have been analyzed as the spellout of verbal functional heads in other Romance languages (cf. Folli and Harley 2004 for Italian, Diaconescu and Rivero 2005 for Romanian), but also in non-Romance languages (cf. Nash 2002 for Georgian, Bowers and Georgala 2007 and Kupula 2011 for Greek, Slavkov 2009 for Bulgarian).

\(^{12}\) Contrast to Ciucivara (2009), who also proposes a low applicative analysis for Romance but treats dative clitics as D-heads and base generates them in the specifier of low ApplP. Anagnostopoulou (2003) too treats Spanish, French and Italian dative clitics as D-heads, but unlike Ciuvivara she base-generates them in the specifier of a high applicative head.
Second, in Cuervo’s theory of Spanish dative arguments, the dative clitic is also the spellout of high Appl. This means that on Spanish would be another language, like the ones discussed above, with both high and low applicatives but no dedicated low applicative affix (licensing only possessors/recipients). But in any case, Cuervo’s high applicative analysis predicts the order V-\text{Cl}_{\text{DAT}}, which is not attested in Spanish, as example (20) illustrates.

\textbf{(20) Spanish high applicative construction} \hspace{1cm} \text{(Cuervo 2003:139)}

\begin{align*}
\text{A Daniela } \text{le} & \text{ son/ parecen importantes esos libros} \\
\text{Daniela.DAT CL.DAT are.PL seem.PL important } & \text{those books.NOM} \\
\text{‘Those books are/seem important to Daniela.’}
\end{align*}

\textbf{(20’)} \hspace{1cm} \text{(based on Cuervo 2003:139)}

\begin{align*}
\text{[[ApplP a Daniela [Appl son/parecen le [vP-BE esos libros t_{son/parecen a importantes}]]]]}
\end{align*}

In contrast to Cuervo (2003), Demonte (1995) and Bleam (2000) propose that the dative clitic in Spanish is an agreement marker. In particular, Demonte (1995) argues that the dative clitic is the head of a Clitic Phrase, which is positioned above the lexical VP, while in Bleam’s (2000) account the clitic is the head of AspP, which is also positioned above VP. Note that the position of ClP/AspP is exactly where Pylkkännen’s high ApplP appears.

There seem, then, to be no clear candidates for an overt low applicative head in situ. Perhaps in recognition of this fact, McGinnis (2001) proposes that the distinction between high and low applicative heads is primarily a semantic and syntactic one without any clear morphological correlates across languages. On this view, there is no particular position in which we should expect to find an applicative affix. But this misses the generalization we suggested above, that applicative heads are realized primarily as suffixes, with some cases of prefixal applicative morphemes that can be analyzed as incorporated prepositions.
McGinnis (2001) argues on the basis of Pylkkänen’s applicative diagnostics that the locative clitic -ho in Kinyarwanda (21) and the Chi-Mwi:ni: applicative suffix -il (22) are both low applicatives.

(21) *Kinyarwanda locative applicative*  
(Kimenyi 1980:92)

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Umuhuûngu á-r-iig-ir-á-ho ishuûri *(imibáre)
boy SP-PR-study-ASP-LOC school mathematics
‘The boy is studying mathematics at school.’
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(22) *Chi-Mwi:ni: suffixal applicative*  
(Kisseberth and Abasheikh 1974:123)

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Ni-mw-andik-il-il-e Nu:ru xati
SP-OP-write-APPL-ASP-FV Nuru letter
‘I wrote Nuru a letter.’
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Abstracting away from the semantics of the Kinyarwanda locative applicative, which corresponds to high applicative rather than low applicative semantics, if McGinnis’ point is correct, one wonders how the position of -ho in (21) could be derived from a low applicative head position. As is well known, the Kinyarwanda locative clitics are phonologically reduced forms of the corresponding prepositions (Kimenyi 1980, Baker 1988, Zeller and Ngoboka 2006) (23). This has motivated the preposition incorporation analysis of Kinyarwanda applicatives in Baker (1988) and Zeller and Ngoboka (2006).

(23) *Kinyarwanda locative PC*  
(Kimenyi 1980:92)

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Umuhuûngu á-r-iig-ir-á imibáre kw’ ishuûri
boy SP-PR-study-ASP-LOC mathematics at school
‘The boy is studying mathematics at school.’
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On the restrictive account of head movement introduced above, where incorporation is uniformly head movement to the left of the higher head (Kayne 1994, Baker 1996), the locative clitic can be analyzed as the product of a postsyntactic operation of morphological merger under adjacency (Marantz 1988, Embick 2007, among others) in (21). If we analyze the locative clitic as a low applicative head, though, we face two problems: (i) the phonological relationship between the head/clitic and unreduced prepositions becomes accidental, and (ii) incorporation must involve right head adjunction to the head of AspectP, which goes against the assumption that head adjunction is always to the left.

Let us now turn to the Chi-Mwi:ni: example in (22). The applicative suffix -il occupies exactly the position of Baker’s (1996) high applicative head, which is equivalent to Pylkkänen’s high applicative structure. In Baker’s account, the benefactive morpheme takes the VP as its theme and a PP with a null P as its goal. If one accepts McGinnis’ point that the syntactic and semantic distinction between high and low applicatives does not correlate with the morphological position of bound applicative morphemes, the same question as in the case of Kinyarwanda arises: how exactly is -il derived from Pylkkänen’s low applicative head position? In a head movement analysis, the low applicative head -il would first right-adjoin to

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13 The Chi-Mwi:ni: applicative suffix –il behaves like a low applicative head based on the following three criteria. It is worth noticing that Pylkkänen (2002, 2008) and McGinnis (2001) assume a distinction between high and low applicatives, while Nakamura (1997) acknowledges that there are two different types of applicatives, but he does not employ Pylkkänen’s analysis.

1. Passivization (Pylkkänen 2002, 2008). In low applicative constructions only passivization of the applied argument is allowed. In contrast, in high applicative constructions either object can be affected by passive. Benefactive/recipient applicative constructions in Chi-Mwi:ni: allow only passivization of the applied object but not the theme.

2. A-bar movement (Nakamura 1997). Nakamura derives Chi-Mwi:ni: benefactive/recipient applicatives using Baker’s (1988) Preposition Incorporation analysis. Under his analysis, economy predicts that the theme of a low applicative construction cannot be wh-extracted, if there is a synonymous non-applicative (prepositional) version. Thus, Chi-Mwi:ni: benefactive/recipient Appl is a low applicative, since it does not have a synonymous analytic counterpart and it allows wh-extraction of the theme. This is not the case with instrumental applicatives, which allow wh-extraction of the theme only when the instrumental is expressed as a PP.

3. Phonological phrasing (McGinnis 2001). In high applicative constructions, the DO and the IO are in the same phonological phrase, while in low applicative constructions IO and DO are in different phonological phrases. In Chi-Mwi:ni:, a process of vowel length shift applies only at the right edge of a phonological phrase (Kisseberth and Abasheikh 1974). Since vowel length shift applies to the recipient IO, McGinnis concludes that the IO is phrased separately from the DO ([V IO] [DO]) and classifies the recipient applicative construction as a low applicative.
V, and then raise and left-adjoin to Aspect, as shown in (24). But, such a derivation is problematic, because it contradicts the assumption that head adjunction is always to the left.

(24)

\[
\text{AspP} \\
\text{Step 2: Raising & Left Adjunction} \quad \text{V-}i\-\text{Asp} \quad \text{VP} \\
\]

\[
\text{t}_{V-i} \\
\text{Step 1: Raising & Right Adjunction} \\
\]

To conclude, if we associate the Chi-Mwi:ni: applicative suffix with a high applicative position, we must find a way to allow a high applicative configuration to license low applicative syntax and semantics. Using evidence from Mandarin, Georgala et al. (2008) and Paul and Whitman (2010) argue that this can be done by employing the raising/thematic applicative hypothesis. In what follows, I summarize Paul and Whitman’s (2010) analysis of how the raising applicative hypothesis accounts for the Mandarin data.

2.3 Mandarin High Low Applicatives

In Mandarin, \( g\-i \) is an independent lexical verb meaning ‘give’, which combined with a lexical verb also appears in the three positions in (25).
(25) a.  **DOC: V-gēi IO DO**  
   Wǒ mài-gēi-le Mǎlì yī-ge shǒubìāo  
   1SG sell-GEI-PERF Mali 1-CL watch  
   ‘I sold Mali a watch.’

b. **Recipient PC: V DO [pp gēi IO]**  
   Wǒ mài-le yī-ge shǒubìāo [pp gēi Mǎlì]  
   1SG sell-PERF 1-CL watch for Mali  
   ‘I sold a watch to Mali.’

c. **Benefactive PC: [pp gēi DP] V DO**  
   Tā [pp gēi wǒ] dāng fāngyì  
   3SG for 1SG act interpreter  
   ‘He serves as an interpreter for me.’

Evidence that recipient and benefactive [gēi DP] in (25b-c) can be analyzed as a PP comes from fronting and the position of aspectual affixes. More specifically, as the examples in (26) illustrate, [gēi DP] in the recipient and benefactive PC patterns can be fronted. Note that the fronted construction in (26a) does not imply transfer of possession, which is characteristic of DOCs; what (26a) can only mean is ‘I sold the watch for Mali’s benefit’ (Paul and Whitman 2010).

(26) a.  **[pp Gēi Mǎlì], wǒ mài-le yī-ge shǒubìāo**  
   for Mali 1SG sell-PERF 1-CL watch  
   ‘For Mali, I sold a watch.’

b.  **[pp Gēi Mǎlì], wǒ mài-le yīdiān jiǔ**  
   for Mali 1SG buy-PERF a:little wine  
   ‘For Mali, I bought a little wine.’
Regarding aspectual affixes, Paul and Whitman (2010) observe that aspectual affixes such as the perfective –le do not combine with [gěi DP] in the recipient and benefactive PC patterns, as shown in (27).

(27) a. Wǒ mài(-le) yī-ge shōubiāo [PP gěi (*-le) Mǎlì]  (Paul and Whitman 2010:266)
    1SG sell-PERF 1-CL watch for-PERF Mali
    ‘I sold a watch to Mali.’

b. Tā [PP gěi(*-le) wǒ] dāng(-le ) fānyì
    3SG for-PERF 1SG act-PERF interpreter
    ‘He served as an interpreter for me.’

In contrast to the recipient and beneficiary PC, on the other hand, the DOC pattern [V-gěi IO DO] displays low applicative properties based on Pylkkänen’s transitivity and verb semantics diagnostics: it is incompatible with either intransitive (28) or stative predicates (29).

(28) *Transitivity diagnostic  (Paul and Whitman 2010:269)
    a. Nǐ gěi wǒ xiāoxīn yǐdiǎnr!
       2SG GEI 1SG be:careful a:little
       ‘Do me the favor of being a bit more careful!’

    b. *Nǐ xiāoxīn-gěi wǒ
       2SG be:careful-GEI 1SG

DOC
(29) *Verb semantics diagnostic*

a. Wǒ gěĩ Mǎlì kān-zhe bāo ne, bù néng likăi  
   1SG GEI Mali watch-DUR bag PART NEG can leave
   ‘I’m watching the bag for Mary, I cannot leave.’

b. *Wǒ kān-gěĩ-zhe Mǎlì bāo*
   1SG watch-GEI-DUR Mali bag

Summing up so far, the DOC pattern [V-gěĩ IO DO] passes Pylkkänen’s tests for a low applicative construction. Yet, if gěĩ heads low ApplP in the underlying structure in (25a’), it must raise and right-adjoin to V, before raise and left-adjoin to Aspect. As Paul and Whitman (2010) point out, such an analysis is problematic for two reasons: (i) it runs counter to the traditional view that head adjunction is always to the left, and (ii) it violates Lin’s (2001) generalization that head adjunction is always to the left in Chinese.\(^\text{14}\) Note that the problem is exactly parallel to the difficulty posed by the Chi-Mwi:ni: example in (24).

(25a’) *Low applicative analysis*

\[
Wǒ \left[ \text{ASP} le \left[ \text{VP mài} \left[ \text{ApplP Mǎlì gěĩ yī-ge shōubiăo} \right] \right] \right]
\]
   1SG ASP sell Mali GEI 1-CL watch

The surface configuration of the DOC pattern, [V-gěĩ-Aspect IO DO], is straightforwardly derivable, if a high applicative structure is assumed. More concretely, in (25a’’) the surface pattern is derived by head movement of V to Appl to Aspect (cf. Lin 2001 for V-to-Aspect raising).

\(^{14}\) Cf. Paul and Whitman (2010) for arguments against a P-incorporation analysis of the DOC pattern, as well as Cheng’s et al. (1999) account, in which gěĩ is argued to be incorporated into the lexical verb.
This brings us back to the question of how a high applicative configuration can license low applicative syntax and semantics. The answer is by assuming that *gēi* is an instance of a raising applicative: it resides above VP, but introduces no additional argument; instead it syntactically licenses the IO in VP. Following I present Paul and Whitman’s (2010) evidence in support of a raising applicative analysis of the DOC pattern.

First, drawing on data from verb copying (30) and A-not-A questions (31), Paul and Whitman (2010) show that [V-*gēi*] in DOCs is distinct from V-V compounds in that the former is derived syntactically by raising V and left-adjoining it to *gēi*, whereas the latter are formed in the lexicon.15

(30) *Verb copying* (Paul and Whitman 2010:274)

a. Wǒ sòng gēi tā qián [\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_] le

1SG offer GEI 3SG money already offer-GEI-PERF many-time PART

‘I have given him money as a present several times already.’

b. Tāmen jiān-chá hùzhào [\_\_\_\_\_\_\_\_\_\_\_\_\_\_] bāntiān

3PL inspect-examine passport inspect-examine-PERF long.time

‘They examined the passports for a long time.’


a. Tā [\_\_\_\_\_\_\_\_] [\_\_\_\_\_\_\_\_] shùxué ?

3SG like NEG like mathematics

‘Does he like mathematics?’

15 Cf. Paul and Whitman 2010 for more details on copying and A-not-A questions with V-V compounds.
b. *Ta huán-gěi bu huán-gěi nǐ qián?

3SG return-GEI NEG return-GEI 2SG money

‘Will he return the money to you?’

Having shown that *gěi in the DOC pattern heads VP-external ApplP, and V-*gěi is syntactically derived, let us now examine one of the most crucial parts of the raising applicative hypothesis, namely the claim that the IO raises out of VP. Following Fitzpatrick’s (2006) classification of distributional quantifiers as adverbial, Paul and Whitman show that the position of distributional quantifiers in Mandarin provides evidence for movement of the IO from its underlying position in [Spec, VP] to [Spec, ApplP] (32).


1SG give-GEI children every(one) each 100 CL dollar

‘I gave the children each 100 dollar.’

Two properties of adverbial quantifiers are important for Paul and Whitman’s argument: (i) adverbial quantifiers scope over the IO, and (ii) adverbial floating quantifiers restrict their associates to A-movement (Fitzpatrick 2006). The latter is exactly what the raising applicative hypothesis requires (32’).

---

16 Fitzpatrick (2006) argues that adverbial floating quantifiers do not appear in NP/DP argument positions, as would be predicted under a stranding analysis. Under this analysis, the properties of adverbial floating quantifiers are the following: (i) they show agreement, (ii) they sometimes contain overt pronouns (e.g., in Hebrew), (iii) they show locality effects, (iv) they show differences in DP/pronoun acceptability (data for this restriction comes from German and French), and (v) they disallow A-bar movement of the associated NP. To account for the above properties, Fitzpatrick proposes that adverbial floating quantifiers contain a possibly null pronominal-like element, and must bind a variable.
Crucially, distributive floating quantifiers do not occur to the right of the IO in the recipient PC pattern (33), or to the right of the DO in both monotransive (34a) and recipient PC constructions (34b) (Paul and Whitman 2010). Paul and Whitman propose that this contrast is explained, if we assume that (32) involves A-movement while (33-34) do not.

(33) *Q-float quantifier with IO: Recipient PC (Paul and Whitman 2010:282)


1SG give-PERF 100 CL money to child-PL every(one)/each

(?? ‘I gave 100 dollars each to the children.’)

(34) *Q-float quantifier with DO: Monotransitive and recipient PC (Paul and Whitman 2010:282)

a. *Wǒ pèngdào-le xuéshēng-men měi-rén /yī-rén

1SG meet-PERF student-PL every(one)/each

(*‘I met the students each.’)

b. *Xiăozhăng fèn-le shí-ge dàxuéshēng měi-rén [pp gěi women]

principal allot-PERF 10-CL student everybody to 1PL

(*‘The principal allotted 10 students each to us.’)

Based on the above discussion, the gěi DOC pattern in Mandarin is a raising applicative construction. Let us now turn to the syntactic licensing of IO and DO. (35) summarizes the basic assumptions.
(35)


b. Based on the evidence, presented above, showing that IO raises out of VP in Mandarin, it is assumed that Appl bears an EPP feature that attracts the IO to [Spec, ApplP] (cf. Georgala et al. 2008 and Paul and Whitman 2010).

c. Both Appl and v are Probes (cf. Collins 1997, McGinnis 1998, Citko 2011, and Haddican and Holmberg 2011, who also assume that Appl may have a Probe).

d. Following Bowers (2010), Citko (2011), Holmberg and Haddican (2011), among others, when the Case features of a DP have been previously valued, this DP does not intervene when a higher Probe looks for a goal.

The derivation in (36) proceeds as follows (Paul and Whitman 2010): DO and V are merged in V’. IO is merged in [Spec, VP]. IO and DO bear uninterpretable Case features. In the next step of the derivation Appl is merged with VP, and enters into an Agree relation with the closest DP with an unchecked Case feature, namely IO. Next, the EPP feature of Appl attracts IO to its specifier. Then v is merged with ApplP and probes down the tree to find a goal to Agree with. Since IO has its features valued, it does not constitute an intervener for Agree between v and the next closest goal with an unchecked Case feature, namely DO.
This licensing approach predicts that IO is unavailable for A-movement, which is born out by the data in (37), where it is shown that IO is ineligible for passivization.\footnote{Fronting of IO with bà, another instance of A-movement, is also not permitted (Paul and Whitman 2010), as the example below illustrates.}

\begin{equation}
\text{(37) \text{*Akiu} \text{ bèi pěngyōu mài-gēi chēzǐ le \quad (Paul and Whitman 2010:289)}}
\end{equation}

Akiu \quad \text{PASS friend \quad sell-GEI car \quad PART}

\begin{verbatim}
('Akiu was sold a car by a friend.')\end{verbatim}

More specifically, since IO is licensed by Appl and DO by \( v \), only the latter is affected by the failure of \([-\text{trans}] \quad v \) to check Case features in passive (Paul and Whitman 2010). Assuming that checking of the Case and EPP features of IO by Appl happen prior to passivization, thus eliminating IO as an intervener, A-movement of DO over IO does not violate Shortest Move (cf. Paul and Whitman 2010, Citko 2011). As predicted by this account, DO becomes the subject of passive DOC in Mandarin (34).\footnote{As expected, bà-extraction of DO is also possible (Paul and Whitman 2010), as example (1) below shows.}
Passivization is one of the most central dimensions of applicative variation both language-internally and crosslinguistically. In the next section I discuss the main passivization properties of applicatives and show how they can be accounted for within the framework of the raising/thematic applicative hypothesis.

2.4 Passive and Applicative Constructions

The interaction of passivization and applicative constructions has been of major focus of attention within Minimalist accounts of ditransitive structure. The reason for this is that movement in applicative constructions raises the issue of syntactic locality. Over the course of the development of Minimalist theory, movement has been proposed to be constrained by a variety of conditions such as Shortest Move, Relativized Minimality, and Attract Closest. What all these constraints have in common is that they ensure that the shortest possible movement takes place. On the simplest analysis, all the aforementioned constraints would permit movement of the highest DP, namely IO, to the subject position in passive. There are indeed some cases, such as American English and Chi-Mwí:ni, that fulfill this prediction, as I show below. However, there also cases where DO passivization is licit, despite the fact that it violates the locality constraints mentioned above on their simplest interpretation. Mandarin is one of these languages, as I showed in Section 2.3.

(38) Chēži bèi pěngyǒu mài-gēi Akiū le
       car  PASS friend  sell-GEI Akiu  PART
       ‘The car was sold by a friend to Akiu.’
Baker (1988) and Bresnan and Moshi (1990) were the first to draw a distinction between applicatives based on their passivization properties. They classified applicatives into symmetric and asymmetric. In symmetric applicatives, both the applied argument and the theme show properties of structural objects. Examples of symmetric applicatives are locative applicatives in Swahili (cf. footnote 15, example 2) and applicatives in British English and Ancient Greek, among other languages. To traditional symmetric applicatives, Citko (2011) adds applicative constructions in which neither the applied object nor the theme gets passivized. Examples of the latter type of symmetric applicatives are benefactive/malefactive applicative constructions in Greek, which I discuss in detail in Chapter 4. In asymmetric applicatives, on the other hand, only one object can move. Mandarin allows asymmetric DO passives, and in this it patterns together with German. Mandarin, however, differs from German with respect to the type of Case the IO bears: In Mandarin IO has structural Case, while in German IO bears inherent dative Case. A detailed discussion of German follows in Chapter 3. In the remainder of this chapter I discuss and propose an analysis of asymmetric IO passives and symmetric passives.

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19 It is worth mentioning that the difference between symmetric and asymmetric does not only apply to languages but also to different applicative constructions within one language. Swahili and Kinyarwanda are two examples of languages with both symmetric and asymmetric applicatives. The examples in (1-2) are from Swahili. (1) shows that Swahili benefactive applicatives are asymmetric, allowing passivization of the applied argument. (2) shows that locative applicatives are symmetric.

(1) a. Mtoto a-li-nunul-i-w-a ki-tabu
   1-child 1SA-PAST-10A-buy-APPL-PASS-FV 7-book
   ‘The child had a book bought for him.’
   b. *Ki-tabu ki-li-nunul-i-w-a m-toto
   7-book 7SA-PAST-buy-APPL-PASS-FV 1-child
   ‘The book was bought for the child.’

(2) a. Ofisi-ni pa-li-l-i-w-a ch-akula
   office-LOC 16SA-PAST-eat-APPL-PASS-FV 7-food
   ‘In the office was eaten food.’
   b. Ch-akula ki-li-l-i-w-a ofisi-ni
   7-food 7SA-PAST-eat-PASS-FAV 9.office-LOC
   ‘The food was eaten in the office.’

2.4.1 Asymmetric IO Passives

In most asymmetric applicatives, only the IO, i.e., the highest argument, can move to the subject position in a passive construction (McGinnis 2008). One example from a language with overt applicative morphology is the raising applicative in Chi-Mwi:ni, which allows the recipient (39a), but not the theme (39b), to become the subject of the passive (Kisseberth and Abasheikh 1977). In Sections 2.2 and 2.3, I have proposed that Chi-Mwi:ni low-high applicatives pose the same problem as Mandarin gēi DOCs, and are best analyzed as raising applicatives to account for the order [V-APPL-ASP]. However, as we see here, Mandarin and Chi-Mwi:ni differ in that the former allows asymmetric DO applicatives, whereas the latter allows asymmetric IO applicatives.

(39) Chi-Mwi:ni asymmetric applicative (Kisseberth and Abasheikh 1977)
a. Mwa:limu ø-let-el-el-a chibu:ku na Nu:ru
   teacher SP-was-brought-APPL-ASP-FV book by Nuru
   ‘The teacher was brought the book by Nuru.’
b. *Chibu:ku chi-let-el-el-a mwa:limu na Nu:ru
   book SP-was-brought-APPL-ASP-FV teacher by Nuru
   ‘The book was brought (to) the teacher by Nuru.’

Another example, this time from a language with non-overt applicative morphology, is the DOC in Standard American English (SAE), where only IO can get passivized, as shown in (40).21 Here, I focus on the case of SAE, but the syntactic licensing I will propose below also holds for Chi-Mwi:ni.

21 Theme passives (tertiary passives) of DOCs also exist in some dialects of American English and have been analyzed by Fillmore (1965), among others.
(40) a. John was sent a letter.
   
   b. *A letter was sent John.

Based on the transitivity and verb semantics applicative diagnostics, Pylkkänen (2002, 2008) shows that SAE DOCs pattern as low applicative constructions (41).

(41) Low applicative analysis of SAE

John sent Mary a letter.

\[
\text{[Voice} _{\text{P} \text{John}} \text{[Voice} _{\text{VP} \text{send}} \text{[Appl} _{\text{P} \text{Mary}} \text{[Appl} _{\text{Appl a letter}}]])]
\]

Examples (42a-b) show that in SAE neither unergative nor static verbs can be applicativized.

(42) SAE low applicative

a. Transitivity diagnostic: *Unergative predicate
   *I ran him.

b. Verb semantics diagnostic: *Stative predicate
   *I held him the bag.

In contrast to Pylkkänen’s low applicative analysis of SAE DOCs, Marantz (1993) proposes an analysis in which a light applicative verb APPL selects the lexical VP as its complement. (43) presents Marantz’s (1993) proposed derivation for the sentence John sent Mary a letter. Marantz’s structure is essentially Pylkkänen’s high applicative structure.
What both accounts have in common is that IO asymmetrically c-commands DO. This c-command asymmetry is one of the defining properties of DOCs, and it has been widely assumed since Larson (1988). Evidence for the relationship between IO and DO comes from an array of diagnostics first discussed in Barss and Lasnik (1986) (44).

(44) a. Binding  
   i. I showed John/him himself (in the mirror).
   ii. *I showed himself John (in the mirror).

b. QNP-pronoun relations  
   i. I denied each worker his paycheck.
   ii. *I denied its owner each paycheck.

c. Wh-movement and weak crossover  
   i. Which worker, did you deny his, paycheck?
   ii. *Which paychecki did you deny itsi owner?
d. **Superiority**
   i. Who did you give which book?
   ii. *Which book did you give who?*

e. *The each… the other construction*
   i. I gave each man the other’s watch.
   ii. *I gave the other’s trainer each lion.*

f. **Polarity** any
   i. I gave no one anything.
   ii. *I gave anyone nothing.*

In what follows, I will show why the raising applicative hypothesis provides an analysis that better captures the SAE data, compared to the two accounts presented above. The main difference between Marantz’s high applicative analysis and the raising applicative analysis is that the raising applicative analysis adds an extra step, in which the IO raises from [Spec, VP] to [Spec, ApplP] (45).

(45) **Raising applicative analysis of SAE**

\[
[\text{vP } \text{John} \ [\text{v } [\text{ApplP } \text{Mary} \ [\text{Appl'} \text{Appl} \ [\text{VP } \text{tMary} \ [\text{v'} \text{send a letter}]]]]]]
\]

Evidence for movement of the IO to [Spec, ApplP] comes from stranded quantifiers (Georgala et al. 2008) (46).

(46) a. I handed two the boys each a fork.
    b. ??I handed two forks each to a boy.
Following Fitzpatrick (2006), who argues that q-float in English is adverbial (cf. footnote 12), these facts are readily explained if the quantifier is adjoined to the left of the VP and the IO A-moves over it to [Spec, ApplP], as predicted by the raising applicative hypothesis. The distributive quantifier each must distribute over a plural entity; this is the trace of two boys in (46a). The unacceptability of (46b) for many speakers indicates that each in this sentence lacks a plural entity to distribute over in its scope.\(^{22}\)

As Georgala et al. (2008) point out, these data are difficult to explain using Pylkkänen’s low applicative structure. Moreover, on the latter analysis movement out of ApplP and/or VP would have to be posited to explain the facts, but the landing site for movement is unclear. Under Marantz’s analysis, where the IO is base-generated in [Spec, ApplP], (40a) can be derived if the quantifier is adjoined to ApplP, but it is not clear to which position the IO would move.

In the remainder of this section, I will show how the syntactic licensing of the raising applicative construction in SAE works. The same syntactic licensing applies also to Chi-Mwi:nii. I adopt the assumptions I made for the Mandarin raising applicative construction in (35), and add two more assumptions to them, namely that EPP-triggered movement is uncoupled from Agree (Collins 1997, Hiraïwa 2001, Bowers 2002, among others), and the order of Agree and EPP is free. In the case of SAE, EPP precedes Agree (Hasegawa 2005, Georgala et al. 2008).\(^{23}\)

Licensing of IO and DO in the SAE DOC in (45), repeated below, proceeds as follows.

\(^{22}\) For speakers who accept (46b), it is possible that an operation corresponding to Object Shift (Johnson 1991) moves the direct object around each. Note that sentences corresponding to (46b) improve with a definite direct object, as shown in (1) below.

\(^{23}\) Note that assuming that EPP precedes Agree in SAE does not violate the Extension Condition. According to Chomsky (1995), the Extension Condition requires that all Merge and Move operations target the root of the tree. Raising of the IO to [Spec, ApplP], triggered by Appl’s EPP feature, applies at the point of the derivation after Appl is combined with its complement, namely VP. Head movement and covert movement are considered to be typical violations of the Extension Condition, but not raising.
Raising applicative analysis

\[[v_P \text{John} [v' \cdot v [\text{ApplP} \text{Mary} [\text{Appl} [v_P \text{t}_{\text{Mary}} [v' \text{send a letter}]]]]]]\]

Appl first triggers movement of the IO Mary to [Spec, ApplP]. At this point Appl no longer c-commands IO. Assuming that the trace of IO is invisible to Appl (cf. Chomsky 2000, 2001, Hiraiwa 2001, Anagnostopoulou 2003, among others), Agree takes place between Appl and the closest matching goal in VP, the DO a letter. After v is introduced into the structure, it looks for the closest eligible goal in its c-command domain; this is the IO in [Spec, ApplP].

This treatment derives applicative structures where, in actives, after the IO raises to [Spec, ApplP], the applicative head Agree with DO, while v Agree with the raised IO. This is the desired result in the case of asymmetric applicatives, where only the applied argument shows structural object properties. Thus, in a passive construction where passive morphology absorbs v’s ability to value Case, T is the closest Probe that can value the Case of the IO. As a result, IO undergoes passive movement, and DO is licensed without having to posit a mechanism like Pesetsky’s (1995) and Harley’s (2002) empty preposition.24

It is well known, though, that across languages, facts are more complex regarding passivization of applicative constructions. As mentioned above, languages such as Kinyarwanda, Swahili, and British English attest symmetric applicatives, where object properties are displayed both by the DO and the applied argument. In the next section I will discuss and account for symmetric passives in British English and Swahili. Part of the analysis of symmetric passives will also be employed to provide an analysis of IO passivization in asymmetric thematic

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24 As Anagnostopoulou (2003) points out, having the theme being introduced by a covert preposition does not account for DOCs in languages such as Greek, where clitic doubling is not allowed with prepositional arguments.

(1) a. To edhosa tu Niku to vivlio
   CL.3SG.ACC gave.1SG the.GEN Nick.GEN the.ACC book.ACC
b. *To edhosa tu Niku sto vivlio
   CL.3SG.ACC gave.1SG the.GEN Nick.GEN to:the.ACC book.ACC
‘I gave Nick the book.’
applicatives such as Chichewa instrumental applicatives (SAE DOC is an example of an IO asymmetric raising applicative).

### 2.4.2 Symmetric Passives

In Section 2.3, using the Mandarin raising applicative construction as a case study, I showed what allows the theme to move to the specifier of TP in asymmetric passives, as movement of the applied argument follows from standard locality considerations. Movement of the theme is possible in symmetric passives too. In this section I will explain how symmetric raising and thematic applicatives can be derived in the framework of the raising/thematic applicative hypothesis. More specifically, I employ a hybrid approach\(^{25}\) by analyzing symmetric raising applicatives using a Case-based account (cf. McGinnis 2004, Citko 2011, Haddican and Holmberg 2011) and an “escape-hatch”-based account (cf. McGinnis 1998, Anagnostopoulou 2003, Dogget 2004) (cf. Section 2.4.2.2 for details). In Section 2.4.2.1 I discuss and propose an analysis of symmetric raising applicatives in dialects of (British)\(^{26}\) English. In Section 2.4.2.2 I provide an account of symmetric locative applicatives in Swahili and asymmetric IO thematic applicatives in Chichewa.

#### 2.4.2.1 Symmetric Raising Applicatives

While DO passivization in the presence of IO is prohibited in most dialects of English (e.g., SAE, as shown in Section 2.4.1), it is accepted by some English dialect speakers (Woolford 1993, Anagnostopoulou 2003, Doggett 2004, Haddican and Holmberg 2011, among others) (47).

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\(^{25}\) Hybrid approaches to symmetric applicatives have been also developed by McGinnis (2004) and Citko (2011).

\(^{26}\) British English dialects are the most frequently ones cited in the literature regarding symmetric passives in English, but as I noted in footnote 12 DO (tertiary) passives are also attested in American English dialects (Fillmore 1965, among others).
(47) a. The ball was given my sister.  
    (Haddican and Holmberg 2011:9)  
    b. My sister was given the ball.

In Section 2.4.1 I provided evidence from quantifier floating and Pylkkännens’s (2002, 2008) applicative tests in support of the claim that SAE has only raising applicative constructions. The same evidence holds for British English.

Let us now take a look at how symmetric raising applicatives are licensed. As in SAE, the applicative head in British English has an EPP feature. Here I again assume that EPP-triggered movement is independent of Agree, and the order of EPP and Agree is free, which suggests that symmetric passives are the least marked ones. In the case of IO passivization EPP movement precedes Agree (48a), while in DO passivization EPP follows Agree (48b).

(48) Symmetric raising applicatives
   a. IO-passive
   b. DO-passive
In the derivation in (48a), Appl first triggers movement of the IO to [Spec, ApplP] for EPP checking. At this point Appl no longer c-commands the IO (the trace of the IO is invisible to Appl). Next Agree takes place between Appl and the closest matching goal in VP, the DO. Since in passive v’s ability to value Case is absorbed, T is the closest Probe that can value the Case of IO. The result is IO passivization. In (48b), on the other hand, Agree is first established between Appl and IO. Then, IO moves to [Spec, ApplP] to check the EPP feature of Appl. Since all features of IO are checked, it cannot enter into an Agree relation with T, and thus does not constitute an intervener for Agree between T and the DO. As a result, DO is passivized. The derivations in (48a) and (48b) are the ones I presented earlier in this section to account for asymmetric raising passive in SAE and Mandarin respectively. The difference between asymmetric raising applicatives and the symmetric ones is that the latter allow both orders of Agree and EPP, while the former permit only one.

This treatment of symmetric applicatives is similar to Haddican and Holmberg’s (2011) account of symmetric applicatives in British English dialects. But, in Haddican and Holmberg’s analysis, a linker head (Baker and Collins 2006) above Appl is posited in order to account for the variation. More specifically, similarly to the analysis provided here for IO passivization, both v and Appl are Probes, valuing the Case feature of IO and DO respectively. In the case of DO passivization, however, the Probe assigning accusative Case to the theme is not on Appl, but a linker head, Lk, as illustrated in (49).

(49) \[ (Haddican and Holmberg 2010:32) \]

\[ [vP \text{EA} [v\text{[Acc]} [LkP \text{[Acc]} [\text{ApplP}\text{goal} [\text{Appl' Appl} [vP \text{V theme}]])]])] \]
Although Haddican and Holmberg’s approach is interesting, assuming an extra head makes it less economical than the analysis developed here. Linker heads, as they originally appear in Baker and Collins 2006, are very similar to applicative heads in that (i) they appear in exactly the same position, sandwiched between \( v \) and lexical \( V \), and (ii) they have the same function, i.e., enabling Case licensing of extra DPs within \( vP \), and providing a specifier position through their EPP feature. So, by using a linker head, Haddican and Holmberg essentially propose an extra applicative head without any semantics related to it.\(^{27}\).

It is important to emphasize that the account of tertiary passives that I have proposed does not involve extra machinery comparable to what is required by the linker approach. That is, once we accept the view that EPP-triggered movement and Agree may be decoupled, the assumption that the ordering of EPP and Agree is not fixed is the minimal assumption, the assumption most consistent with a minimalist approach to syntactic derivations. Symmetric languages are examples of cases where EPP and Agree are freely ordered. The fact that they exist indicates that not stipulating the order of EPP and Agree is the right stance from a minimalist standpoint. What principle would determine which applies first, though? For languages that do not allow free variation the order is determined by a parameter. This is in line with what has been recently proposed by Baker (2008, 2010), namely that there is variation in the syntactic operation of Agree, and not in the feature content of individual functional heads involved in agreement.\(^{28}\)

### 2.4.2.2 Symmetric Thematic Applicatives

Although the Case-based account developed above works for symmetric raising applicatives, it does not capture the full range of applicative constructions. In the remainder of this chapter, I

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\(^{27}\) Haddican and Holmberg’s (2011) \( Lk \) is similar in nature to Citko’s (2011) \( appl \), which is introduced for the same reason, namely to allow DO passivization in DOCs.

\(^{28}\) Another possibility would be to assume that independent principles determine the order of Agree and EPP. It is worth noting that a similar approach was employed to deal with intrinsic rule ordering in phonology. Exploring this possibility is part of future research.
motivate the need for another strategy used in the case of thematic applicatives to allow passivization of both objects. What is crucial in this approach is the assumption that Merge and Move may be freely ordered (McGinnis 1998). This assumption is somewhat parallel to the assumption regarding EPP-triggered movement and Agree proposed above. The data I discuss are from the Swahili locative applicative construction, exemplified in (50).


Ofisi-ni pa-li-l-i-w-a ch-akula
office-LOC 16SA-PAST-eat-APPL-PASS-FV 7-food

‘In the office was eaten food.’

b. DO passivization

Ch-akula ki-li-l-i-w-a ofisi-ni
7-food 7SA-PAST-eat-PASS-FAV 9.office-LOC

‘The food was eaten in the office.’

The notion of a locality “escape hatch” in the sense of a single head permitting more than one specifier has been employed by many researchers (Ura 1996 and subsequent work, McGinnis 1998 and subsequent work, Anagnostopoulou 2003, Doggett 2004, Citko 2011) in their attempt to capture movement of the DO over the IO. Following McGinnis (1998), I account for the syntactic licensing of passive in symmetric thematic applicatives by combining the availability of multiple specifiers with one extra assumption, namely that the order of Merge and Move may be free.

In the following, I go through the derivations for IO and DO passives step-by-step. Let us start with IO passivization in (51a). When Appl enters the derivation, it establishes an Agree relation with DO. Then IO is merged in the specifier of ApplP. Next, DO moves to [Spec, ApplP] to check the EPP feature of Appl by tucking in below IO. As a result, IO gets passivized
because it is the closest matching goal to enter into Agree with T and check its EPP feature. On the other hand, in (51b) when Appl is merged, its EPP feature attracts the DO to its specifier. Then IO is merged via tucking in beneath DO, and is licensed by Appl. DO, being the closest DP with an unchecked Case feature, it enters into Agree with T, as soon as T enters the derivation (v is defective in passive). This treatment results in DO passivization.

In sum, in thematic symmetric applicatives, when Merge precedes Move, IO becomes the subject of passive, whereas the DO gets passivized, when Move of DO happens prior to Merge of IO.

(51) **Symmetric thematic applicatives**

a. *IO-passive*

```
TP  
  \_\_\_\_T  \_\_\_\_vP
       \_\_\_v  \_\_\_\_ApplP
```

```
1st: Merge  IO  ApplP
```

```
2nd: Move  DO  Appl’
```

```
Appl  VP
V  tDO
```

b. *DO-passive*

```
TP  
  \_\_\_\_T  \_\_\_\_vP
       \_\_\_v  \_\_\_\_ApplP
```

```
1st: Move  V  tDO
```

The derivation in (51a) accounts also for asymmetric IO passives of thematic applicatives such as the instrumental applicative construction in Chichewa (52).
(52) *Passivization of instrumental applied object in Chichewa* (Alsina and Mchombo 1988:23)

a. Mwàla u-ku-phwány-ír-idw-á dèngu  
   stone  SP-PRES-break-APPL-PAS-FV basket

   ‘The stone is being used to break the basket.’

b. *Dèngu li-ku-phwány-ír-idw-á mwàla  
   basket SP-PRES-break-APPL-PAS-FV stone

The instrumental applicative in Chichewa passes Pylkkänen’s transitivity high applicative test, as it combines with unergative predicates, such as the verb root *yend* ‘walk’ in (53). Also, like in the case of Chi-Mwi:ni: and Mandarin high-low appplicatives, the applicative suffix *-ir*²⁹ in Chichewa follows the verb root and precedes the aspect morpheme. The most straightforward way to account for this order is by assuming a high applicative construction (Baker 1996, Pylkkänen 2002, 2008, among others) and an EPP feature on Appl, as in (51a). Without an EPP feature on Appl we cannot account for applicative constructions with low-type semantics in the language.

(53) *Chichewa instrumental applicative*  (Baker 1988:379)

   Msangalatsi a-ku-yend-er-a ndodo
   entertainer  SP-PRES-walk-APPL-ASP stick

   ‘The entertainer is walking with a stick.’

Note that the only difference between Chichewa instrumental applicatives and Swahili locative applicatives is that the latter allows free order of Merge and Move, while the former permits only the order Merge, Move.

²⁹ The applicative morpheme has two allomorphs *-ir* and *-er*, whose occurrence is determined by vowel harmony. Following Alsina and Mchombo (1988), I use *-ir* as the citation form.
To sum up, in this section I have discussed one of the most interesting aspects of variation in applicative structures, namely A-movement, focusing on passive. Following much recent work on A-movement in applicatives (cf. McGinnis 2004, Citko 2011, among others), I have shown that a hybrid analysis, combining a Case-based (the higher argument is ineligible for movement, allowing the lower argument to move over it) and a locality-based approach (the lower argument moves over the higher one by means of an escape hatch), best accounts for the different types of symmetric and asymmetric passives. The analysis employed here departs from other analyses in that it is developed within the framework of the raising/thematic applicative hypothesis, which posits an EPP feature on Appl both in raising and thematic applicative constructions. This combined with the assumptions that EPP and Agree, and Merge and Move may be freely ordered account for the different types of applicative passivization discussed in this section.

2.5 Summary

In this chapter I have presented a typology of applicative constructions based on the morphological exponence of the applicative head and the A-movement properties of the applied argument, focusing on passive. In the first part I have provided compelling evidence based on the morphological exponence of the applicative head to motivate the raising/applicative hypothesis. In the remainder of the chapter I discussed one of the most intriguing points of variation among applicative constructions, namely passivization, and showed how the raising/applicative hypothesis can account for the different types of passives in the most economical way, by assuming a single applicative head above VP, while at the same time capturing Pylkkännen’s evidence for two semantically different types of applied arguments.

The next two chapters provide an in depth analysis of applicative constructions in German and Greek, languages with non-overt applicative morphology. German and Greek
contribute intriguing data (excluded from this chapter due to their complexity), constituting thus interesting puzzles both for the raising/thematic applicative hypothesis and theories of syntactic locality.
CHAPTER 3
GERMAN DATIVE
DOUBLE OBJECT CONSTRUCTIONS

3.1 Introduction

German is a language with a variety of double object constructions (DOCs), as shown in (1a–e). The focus of this chapter is DOCs with a dative indirect object (IO) and an accusative direct object (DO), as in (1a–c). I also briefly discuss and propose an analysis for indirect objects bearing accusative case (1d). I argue that German has three different types of dative IOs: oblique, raising and thematic applied arguments. While there is consensus in the literature about the base order of oblique datives and DOs (the DO is merged higher than the dative argument), there is still debate about the underlying order of the two objects in applicative constructions. I provide novel data from depictive and quantifier stranding, as well as split topicalization, in support of the view that applied arguments in German are merged higher than accusative DOs, in accord with the crosslinguistic generalization about the order of objects in DOCs.31

(1) a. dass Eva ihm eine Email schickte
   that Eva.NOM him.DAT an.ACC email.ACC sent
   ‘that Eva sent him an email’

b. dass Eva ihm die Tür aufmachte
   that Eva.NOM him.DAT the.ACC door.ACC opened
   ‘that Eva opened the door for him’

30 Parts of this chapter appear in Georgala (2011).
c. dass Eva ihn einer Gefahr aussetzte  
that Eva.NOM him.ACC a.DAT danger.DAT exposed  
‘that Eva exposed him to a danger’

d. dass Eva ihn Englisch lehrte  
that Eva.NOM him.ACC English.ACC taught  
‘that Eva taught him English’

e. dass Eva ihm seines Glücks beneidete  
that Eva.NOM him.DAT POSS.3SG.MASC.GEN luck.GEN envied  
‘that Eva envied him because of his luck’

Section 3.2 presents a typology and syntactic analysis of dative DOCs, focusing on showing how the raising/thematic applicative hypothesis applies to German. Section 3.3 provides evidence from stranding and split-topicalization data in support of the view that <IO, DO> is the underlying order of objects in German applicative constructions, which is exactly what is predicted by the raising/thematic applicative hypothesis. Section 3.4 summarizes the chapter.

3.2 The Syntax of German Dative DOCs

3.2.1 Typology of Dative DOCs

There is fairly general consensus in the literature that German has two structurally distinct classes of DOCs with an IO in dative case and a DO in accusative (cf. Wegener 1991, Haider 1993, Czepluch 1996, Krifka 1998, Molnárfi 1998, McFadden 2004, Cook 2006, Meinunger 2006, McIntyre 2006, among others).\textsuperscript{32,33} In Section 3.2.3 I will show that German in fact has

\textsuperscript{32} Cf. Dvorak 2010 for a similar distinction in Czech.
three structurally distinct classes of DOCs: (i) “low” dative DOCs, (ii) raising applicative constructions, and (iii) thematic applicative constructions. In previous literature, raising and thematic applicatives are subsumed under one class, namely “high” dative DOCs (cf. Wegener 1991, McFadden 2004, Cook 2006).

What is referred to as the “low(er)” dative appears with verbs such as *ausliefern* ‘deliver’, *aussetzen* ‘expose’, *entziehen* ‘deprive/withdraw’, *unterwerfen* ‘subject to’, *unterziehen* ‘submit to’, *zuführen* ‘supply with / bring to’. The class of “low” dative verbs is relatively small and displays less productivity and regularity in its behavior. The so-called “high(er)” dative construction, on the other hand, occurs with prototypical ditransitive verbs (e.g., *geben* ‘give’, *schicken* ‘send’, *empfehlen* ‘suggest’, *zeigen* ‘show’, etc.) and a large number of verbs to which a dative argument can be freely added.

Evidence for the distinction between the two classes comes from a series of diagnostic tests. Here, I present the most reliable ones (cf. Wegener 1991, Frey 1993, McFadden 2004, among others, for more diagnostic tests for the distinction between the two classes of DOCs).

Vogel and Steinbach (1998), Müller (1999), Heck (2000), Fanselow (2003), among others, argue against two classes of dative DOCs, by attributing word order differences to an animacy constraint on word order, namely preference for animate arguments to precede inanimate ones. McIntyre (2006 and subsequent work) and Cook (2006) show that the animacy constraint does not explain the contrast between the two classes. More specifically, as Cook (2006) observes, Vogel and Steinbach’s (1998) and Müller’s (1999) accounts make the wrong predictions when it comes to cases with two objects matching in animacy: Vogel and Steinbach predict that either order is equally unmarked, while Müller predicts that dative precedes accusative. In (1) below both objects are inanimate. Example (1a) with <DAT, ACC> is degraded, undermining both Vogel and Steibach’s and Müller’s predictions.

(1) a. *Die Dschungelbewohner entziehen dem Baumharz das Pfeilgift.*
   The.NOM jungle.dwellers.NOM strip the.DAT tree.resin.DAT the.Pfeilgift
   ‘The jungle dwellers strip the resin of the poison for arrows.’

One of my accounts. McIntyre (2009) acknowledges two different types of “high” dative DOCs, but he follows Pykkänen’s (2002, 2008) account of low and high applicatives in analyzing them.

Cook (2006) argues that *entziehen* ‘deprive/withdraw’ and *zuführen* ‘supply with / bring to’, depending on their reading, can be classified as either “low” or “high” dative verbs.

33 Vogel and Steinbach (1998), Müller (1999), Heck (2000), Fanselow (2003), among others, argue against two classes of dative DOCs, by attributing word order differences to an animacy constraint on word order, namely preference for animate arguments to precede inanimate ones. McIntyre (2006 and subsequent work) and Cook (2006) show that the animacy constraint does not explain the contrast between the two classes. More specifically, as Cook (2006) observes, Vogel and Steinbach’s (1998) and Müller’s (1999) accounts make the wrong predictions when it comes to cases with two objects matching in animacy: Vogel and Steinbach predict that either order is equally unmarked, while Müller predicts that dative precedes accusative. In (1) below both objects are inanimate. Example (1a) with <DAT, ACC> is degraded, undermining both Vogel and Steibach’s and Müller’s predictions.

(1) a. *Die Dschungelbewohner entziehen dem Baumharz das Pfeilgift.*
   The.NOM jungle.dwellers.NOM strip the.DAT tree.resin.DAT the.Pfeilgift
   ‘The jungle dwellers strip the resin of the poison for arrows.’

34 “Low(er)” / “high(er)” dative refers to the position of the dative with respect to the direct object.

35 Similarly to my account, McIntyre (2009) acknowledges two different types of “high” dative DOCs, but he follows Pykkänen’s (2002, 2008) account of low and high applicatives in analyzing them.

36 Cook (2006) argues that *entziehen* ‘deprive/withdraw’ and *zuführen* ‘supply with / bring to’, depending on their reading, can be classified as either “low” or “high” dative verbs.
By applying a traditional constituency test, topicalization, Wegener (1991) and McFadden (2004) show that “low” and “high” dative verbs pattern differently, as illustrated in (2). The standard assumption behind topicalization is that only constituents move in front of the finite verb in a V2 clause. In example (2a), DO and the “high” dative verb *kaufen* ‘buy’ have fronted together, showing that they form a constituent to the exclusion of the IO *einer Frau* ‘a woman’. Fronting of IO and V to the exclusion of the DO, however, is considerably worse, as (2b) shows, suggesting that the IO and the verb do not form a constituent. The opposite is observed with “low” dative verbs, as example (3) illustrates. With a “low” dative verb like *aussetzen* ‘expose to’ fronting of the IO with the verb to the exclusion of the DO is fine (3a), while fronting of the DO with the verb to the exclusion of the IO is much worse (3b).

(2)  
(Wegener 1991:79, as cited by McFadden 2004:106)

a. [Blumen kaufen], kann man einer Frau immer ti
   flowers.ACC buy can one.NOM a.DAT woman.DAT always
   ‘One can always buy a woman flowers.’

b. *[Einer Frau kaufen], kann man Blumen immer ti

(3)  
(Wegener 1991:95, as cited by McFadden 2004:106)

a. [Der Kälte ausgesetzt], hat er das Kind ti
   the.DAT cold.DAT exposed has he.NOM the.ACC child.ACC
   ‘He exposed the child to the cold.’

b. *[Das Kind ausgesetzt], hat er der Kälte ti

Furthermore, the two classes differ regarding the placement of sentential negation under neutral intonation (Wegener 1991, McFadden 2004). With a “low” dative verb, such as *aussetzen* ‘expose to’ sentential negation is restricted to the position between the two objects (4a). If *nicht* ‘not’ occurs pre-verbally it is preferably interpreted as constituent negation on the verb. In the
case of “high” dative verbs, such as *geben* ‘give’, on the other hand, *nicht* can receive sentential intonation either when it appears between the two objects or in the immediately pre-verbal position (4b).

(4)  
(Wegener 1991:96, as cited by McFadden 2004:105)

a. Sie hat das Kind (nicht) der Kälte (?nicht) ausgesetzt
   she.NOM has theACC child.ACC (not) the.DAT cold.DAT (not) exposed
   ‘She didn’t expose the child to the cold.’

b. Sie hat dem Jungen (nicht) das Buch (nicht) gegeben
   she.NOM has the.DAT boy.DAT (not) the.ACC book.ACC (not) given
   ‘She didn’t give the book to the boy.’

Also, these two verb classes behave differently regarding the so-called recipient passive, in which *bekommen* ‘receive’, *erhalten* ‘obtain’ and *kriegen* ‘get’ seem to function like passive auxiliaries in a construction in which the subject corresponds to the dative IO in an active clause. Recipient passive is grammatical with “high” dative verbs, but not with “low” dative

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37 Some speakers of German do not agree with Wegener’s judgments in (4b). For instance, according to Brugger and Poletto (1993), Hauptmann (1994), and Hinterhölzl (2006), when *nicht* precedes either object, only constituent negation is possible. Jäger (2008), on the other hand, agrees with Wegener’s judgments and further argues that placing *nicht* before a definite DP object does not result in constituent negation, but negation with marked focus, where the definite DP forms the focus or is included in the focus domain of negation.

38 There is debate in the literature about how the recipient passive is analyzed (cf. Haider 1984, Reis 1985, Fanselow 1987, Cook 2006, McIntyre 2006, Alexiadou et al. to appear). Alexiadou et al. (to appear) apply standard diagnostics to test whether there is an implicit external argument in recipient passives. It is generally agreed upon that the external argument is implicitly present in passivization, as it is semantically and syntactically active. This is suggested by the licensing of (i) agentive *by*-phrases, (ii) purpose clauses, and (iii) agentive adverbs. Alexiadou et al. report that although many speakers treat recipient passives as true passives in Standard German, there are some who do not view these constructions as true passives containing an implicit external argument, at least as far as the control and agentive adverb tests are concerned (in contrast to Dutch, another language with recipient passives, which passes all the tests). Alexiadou et al. speculate that the reasons for this split among speakers/dialects of German is the status of grammaticalization of the verb *bekommen*, and end up treating recipient passives in German as true passives. By treating recipient passives as true passives, though, Alexiadou et al. imply that there are two types of passivization of DOCs in German: (i) *werden*-passives in which the dative is preserved, and (ii) *bekommen*-passives in which the dative is “absorbed”. The former involves an applicative construction (cf. Section 3.2.3),
verbs, as examples (5b) and (6b) illustrate respectively (Czepluch 1988, Fanselow 2000, McFadden 2004, Cook 2006, among others).³⁹

(5) a. Die Mutter schickt dem Jungen das Paket (Cook 2006:145)

the.NOM mother.NOM sends the.DAT boy.DAT the.ACC parcel.ACC

‘The mother sends the boy the parcel.’

b. Der Junge kriegt das Paket geschickt (von der Mutter)

the.NOM boy.NOM gets the.ACC parcel.ACC sent by the.DAT mother.DAT

‘The boy gets sent the parcel (by the mother).’

(6) a. Die Mutter setzt das Kind der Kälte aus (Cook 2006:145)

the.NOM mother.NOM sets the.ACC child.ACC the.DAT cold.DAT out

‘The mother exposes the child to the cold.’

whereas the latter does not. One of the most obvious questions such an account raises is what the difference between the applicative and non-applicative structure is.

Here, due to the lack of robust evidence regarding the presence of an implicit external argument in recipient passives and the implications of a non-applicative passive account I mentioned above, I propose an analysis similar in spirit to Bowers’ (2002) account of ‘transitive’ get/have-passives in English. More specifically, I propose that bekomen/kriegen is a psych-type predicate and its surface subject is its experiencer argument, binding pro or being related to a null operator binding a trace in the IO position of the participle (cf. McInryre 2006 who entertains the idea that bekomen/kriegen passive might be the inchoative version of the same HAVE relation as that which he argues to be the relation which dative IOs have to an event). On this account, passivization of the dative argument in ‘low’ dative DOCs is illicit not only because the dative argument is an oblique (see discussion in this section), but also because it is not an experiencer (cf. example 6).

Eroms (1978) was the first to observe that not all “low” dative verbs obey the recipient dative restriction. For example zuführen ‘supply/bring’ may appear in the recipient passive construction, as example (1) below shows.

(1) Die Firma kriegt stets die besten Arbeitskräfte (durch die Agentur) zugeführt

the.NOM company.NOM gets always the.ACC best.ACC workers.ACC by the.ACC agency.ACC supplied

‘The firm always gets supplied (with) the best workers (by the agency).’ (Cook 2006:160)

Cook (2006) accounts for example (1) by arguing that zuführen has two conceptual/thematic structures: one corresponds to the “high” dative reading ‘supply with’ which allows the recipient passive, as shown in example (1) above, and the other corresponds to the “low” dative reading ‘bring’ which prohibits the recipient passive, as example (2) shows.

(2) Die Verwertung kriegt die sortierten Verpackungen zugeführt

the.NOM recycling.NOM gets the.ACC sorted.ACC packaging.ACC brought

The picture is exactly the same with the verb entziehen ‘deprive/withdraw’: when entziehen has the ‘withdraw’ reading, the dative IO cannot function as the subject of the recipient passive.
b. *Die Kälte kriegt das Kind ausgesetzt
   the.NOM cold.NOM gets the.ACC child.ACC exposed

Before I proceed to the syntactic analysis of “low” dative DOCs and thematic and raising applicatives, I would like to briefly discuss two additional types of dative DPs, the so called estimative and ethical datives.

As Wegener (1989) and Draye (1996) observe, ethical datives appear rather freely, usually as 1st or 2nd person personal pronouns, under appropriate pragmatic conditions, namely surprise, astonishment, (dis)pleasure, or incitement. The referent of an ethical dative expresses the speaker’s interest in the proposition coming true (7) (Wegener 1989, Gutzmann 2007, Bosse et al. to appear) and does not contribute any truth-conditional meaning to the sentence (Gutzmann 2007, Bosse et al. to appear).

(7) a. Schlaf mir jetzt schön ein, Kleines!                       (Lee-Schoenfeld 2006:105)
    sleep me.DAT now nicely in little.one
    ‘Kindly fall asleep for me now, little one!’

b. Du sollst mir nicht wieder fernsehen!                        (Bosse et al. to appear:9)
    you shall me.DAT not again watch.television
    ‘You shall not watch TV again and I want this to come true!’

Unlike “low” and “high” datives, ethical datives can neither be stressed, negated, or contrasted (8a–c), nor function as the antecedent of a relative clause or an appositive (9a–b) (Wegener 1989, Draye 1996).
(8) a. *Da hat er MIR ihm etwas (Draye 1996:184)
    then has he.NOM me.DAT him.DAT something.ACC
    zugeflüstert und…
    to.whispered and
    ‘Then he whispered something to him to my dissatisfaction/surprise and…’

    come on.time to home and in.fact me.DAT
    ‘Come home on time, for me.’

c. *Das war nicht dir, sondern mir ein Spaß! (Wegener 1989:58)
    this.NOM was not you.DAT but me.DAT a.NOM fun.NOM
    ‘This was fun not for you, but for me.’

(9) a. *Komm mir, die ich mich um dich Sorge,
    come me.DAT who.NOM I myself for you.ACC care
    pünktlich nach Hause!
    on.time to home

b. *Der war dir, seiner besorgten Mutter, betrunken!
    he was you.DAT poss.3sg.masc.DAT worried.DAT mother.DAT drunk

Moreover, ethical datives may neither appear in the beginning of a sentence (10) nor coordinate (11) (Wegener 1989).

(10) *Uns wird es doch nicht regnen! (Wegener 1989:58)
    us.DAT will it.NOM still not rain

(11) *Komm mir und dem Papa ja pünktlich nach Hause!
    come me.DAT and the.DAT dad.DAT partcl on.time to house
The restricted syntactic behavior of ethical datives is not special to German. Similar syntactic properties occur in ethical datives crosslinguistically, e.g., in Spanish (Jaeggli 1982, Cuervo 2003, Franco and Huidobro 2008), French (Jouitteau and Rezac 2007), Hebrew (Borer and Grodzinsky 1986), and Greek (see next chapter).

Estimative datives typically co-occur with the degree modifiers zu ‘too’ and genug ‘enough’, and […] “seem to distribute identically to the idiom for x’s liking” (McIntryre 2006:206).

(12) Die Idee war mir {zu unausgereift / nicht interessant genug} (McIntyre 2006:206)

the. NOM idea. NOM was me. DAT too half-baked
not interesting enough
‘The idea was {too half-baked / not interesting enough} for my liking.’

Both ethical (13a) and estimative (13b) datives may co-occur with dative arguments, as Wegener (1985) first observed.

(13) a. Nun kauf mir endlich dem Kind (Wegener 1985:39)

now buy. IMP. 2 SG me. DAT finally the. DAT child. DAT
einen Lutscher, damit es Ruhe gibt
a. ACC lollipop. ACC so. that there peace is
‘Now buy the child a lollipop for me, so that we can have some peace of mind.’
b. Der David hat mir der Claudia (Vogel and Steinbach 1998:77)

the.NOM David.NOM has me.DAT the.DAT Claudia.DAT

schon zu viele Geschenke gegeben

already too.many.ACC presents.ACC given

‘I think, David has already given too many presents to Claudia.’

With respect to the syntactic analysis of ethical and estimative datives, there is consensus that they should not be treated on a par with “low” and “high” datives. In fact, most studies of dative DOCs simply treat them as adjuncts, without getting into details about their syntax (Beermann 2001, McFadden 2004, Cook 2006, among others). Analyzing ethical datives as adjuncts, though, does not explain their clitic-like behavior.

The most in depth account of these two types of datives is Wegener’s study from 1989, in which she argues that ethical datives are modal particles (see Section 4.2.3, footnote 15 for an alternative analysis) at the clausal level, while estimative datives are dependent on the degree particles zu ‘too’ and genug ‘enough’ (Wegener 1985, 1989, Eisenberg 1986, Draye 1996), which modify adjectives or adverbs.40 Although modal particles and ethical datives have properties in common, Wegener’s analysis does not account for the pronominal behavior of ethical datives.

Bosse et al. (to appear) in their brief discussion of ethical datives, which they call “attitude holders”, speculate that they are merged outside the projection of the external argument, VoiceP, and probably around TP. I agree with Bosse et al. that ethical datives are merged above the thematic domain of the clause. To account for the clitic-like behavior of German ethical datives (cf. Lee-Schoenfeld 2006), I tentatively propose that German ethical datives are defective realizations of an argument-introducing head (Embick 2004, Boneh and Nash 2011), which is

spelled out as a clitic when it lacks the specifier occupied by a referential argument. The non-thematic domain in which the projection that introduces ethical datives finds itself prohibits adding new event arguments. In Chapter 4 I propose a similar analysis for Greek ethical datives.

3.2.2 The Syntax of “Low” Dative DOCs

As noted above, there is nearly general agreement in the literature that the base order of “low” dative DOCs is ACC>DAT and that the dative argument is an oblique. Yet, there are differences in the details of the proposed syntactic accounts. I follow Meinunger’s (2000, 2006) analysis, which I discuss in the last part of this section.


(14) (Wegener 1991:96)

a. Er hat das Buch nicht auf den Tisch gelegt
   he.NOM has the.ACC book.ACC not on the.ACC table.ACC put
   ‘He did not put the book on the table.’

b. ?Er hat das Buch auf den Tisch nicht gelegt
   he.NOM has the.ACC book.ACC on the.ACC table.ACC not put
Wegener’s (1991) and McFadden’s (2004) observation about “low” datives and PPs patterning together is further supported by their position relative to manner adverbs, which precede PPs but follow object NPs, as observed by Brugger and Poletto 1995, and Hinterhölzl 2006, among others.

(15) a. weil sie die Milch vorsichtig in den Kühlschrank gestellt hat
   because she the milk carefully in the fridge put has
   ‘because she carefully put the milk in the fridge’

b. *weil sie die Milch in den Kühlschrank vorsichtig
   because she the milk in the fridge carefully
   gestellt hat
   put has

c. weil sie das Kind vorsichtig der Sonne ausgesetzt hat
   because she the child carefully the sun exposed has
   ‘because she carefully exposed the child to the sun’

d. *weil sie das Kind der Sonne vorsichtig ausgetzt hat
   because she the child in the sun carefully exposed has
Furthermore, McFadden (2004), Meinunger (2006), McIntyre (2006, 2009), among others, note that the locational/directional semantics of these datives is most commonly associated with PPs, both within German and crosslinguistically.

Based on the similarities between the two constructions, McFadden proposes that the “low” dative is the complement of a PP with a null P head (16).

(16) $\begin{array}{c}
\text{vP} \\
\text{er} \\
\text{v'} \\
\text{v} \\
\text{VP} \\
\text{die Kinder} \\
\text{V'} \\
\text{PP} \\
\text{aussetzt} \\
\text{P} \\
\text{der Kälte} \\
\emptyset
\end{array}$

(McFadden 2004:115)

McFadden draws a parallel between “low” dative DPs and adverbial DPs (cf. example 17), which are analyzed as DPs embedded in PPs with a null P by Emonds (1987) and Nikanne (1993). In both “low” datives and adverbial DPs, null P semantically relates the DP to the rest of the clause, and the overt case-marking allows the content of null P to be recovered. In the case of “low” datives, the PP is the complement of the lexical verb.

(17) dass Eva ihren Bruder letzten Sonntag besucht hat

‘that Eva visited her brother last Sunday’
Note, however, that McFadden’s extension of the null P analysis of adverbial DPs to “low” dative arguments faces a problem with the facts of extraposition. Adverbial DPs (18a) and PPs (18b–c) extrapose, while “low” datives do not (18d).41

(18) a. Sie will ihren Bruder besuchen nächsten Sonntag

she.NOM wants poss.3SG.FEM.ACC brother.ACC visit next.ACC Sunday.ACC

‘She wants to visit her brother next Sunday.’

b. Sie will ihren Bruder besuchen

she.NOM wants poss.3SG.FEM.ACC brother.ACC visit

im Februar

in.the.DAT February.DAT

‘She wants to visit her brother in February.’

c. ?Sie wollen die Osttarife an gleichen

they.NOM want the.ACC eastern.wages.ACC assimilate

an die Westtarife

to the.ACC western.wages.ACC

‘They want to bring the eastern wages more in line with the western wages.’

41 The extraposition argument against McFadden’s (2004) null P account of “low” datives is first brought up by McIntyre (2009). Note, however, that McIntyre’s argument, solely based on the contrast in (18c–d), is not valid, unless it is supported by the data in (18a). More specifically, the ungrammaticality of (18d) can be explained as a violation of the Proper Binding Condition (Fiengo 1977) on either a base-generation (Webelhuth 1989, Culicover and Rochemont 1990, Wiltshko 1994) or a movement (Reinhart 1980, Baltin 1982, Büning and Hartmann 1995, Müller 1995b, among others) account of extraposition. In parallel to extraposition of a PP with a null P in German (18d), extraposition of a relative clause with a null complementizer in English (1a) is ruled out by the Proper Binding Condition, as shown in (1) below.

(1) a. Bill hit a man at the party *(that) Mary asked him to. (Cullicover and Rochemont 1990:44)
By contrast, Meinunger (2006) argues that the “low” dative is the complement of a PP, with P being incorporated into the verb. Meinunger’s account is based on the observation that all “low” dative verbs (with the exception of the verb *entziehen* ‘withdraw’\(^{42}\)) can be morphologically decomposed into a verbal stem and a separable prefix, which is identical to a locative preposition (e.g., *aus* ‘from’ + *setzen* in *aussetzen* ‘expose to’, *unter* ‘under’ + *ordnen* in *unterordnen* ‘subordinate’).\(^{43}\)

Meinunger’s incorporation account has been criticized by McIntyre (2003) and McFadden (2004) on the basis of the fact that some of the prefixes would be actually expected to assign accusative instead of dative case, if they were instantiations of the relevant P head. The example mentioned by McFadden to illustrate this point is the verb *angleichen* ‘make similar to.’ As example (18c), repeated below, shows, the PP an die Westtarife ‘to the western wages’, which is a complement of *angleichen*, is in accusative instead of dative case.

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\(^{42}\) Citing Stiebels (1996), Meinunger (2006) notes that the Modern German prefix *ent-* originates from the Old German locative preposition *int*. Both *ent-* and *int* roughly express the meaning ‘away from’.

\(^{43}\) To account for the cases where the prefix and the verb are discontinuous, such as in the infinitival form *auszusetzen* ‘to expose to’, *aus-* needs to excorporate (Roberts 1991) from V and m-merge with the head of AspectP, zu ‘to’, in whose specifier it appears (cf. Toyoshima 2000 and Matushansky 2006 on this type of head-movement). According to Hinterhölzl (2006), AspectP immediately dominates VP.
(18) c. *Sie wollen die Osttarife an die Westtarife angleichen
   they.NOM want the.ACC eastern.wages.ACC assimilate
   an die Westtarife
   to the.ACC western.wages.ACC
   ‘They want to bring the eastern wages more in line with the western wages.’

d. *Sie wollen die Osttarife assimilieren
   they.NOM want the.ACC eastern.wages.ACC assimilate
   den Westtarifen
   the.DAT western.wages.DAT

On a closer look, though, this example is not relevant for McFadden’s and McIntyre’s argument against Meinunger’s incorporation analysis, since it is a case of co-occurrence of the true P an and the prefix an-. A more relevant example would be a case such as (19a), where zu ‘to’ appears as a pure preposition (19a) and the verb, geführt ‘led’, has no prefix.

(19) a. weil sie ein neues Opfer zu ihrem Medizinmann geführt haben
   since they.NOM a.ACC new.ACC victim.ACC to POSS.3PL.DAT
   medicine.man.DAT led have
   ‘since they led a new victim to their medicine man / kahuna’

b. weil sie ihr Medizinmann ein neues Opfer zu Medizinmann geben
   since they.NOM POSS.3PL.DAT medicine.man.DAT a.ACC new.ACC victim.ACC
   *(zu)gegeben
   to.led have
Crucially, however, contra McIntyre’s and McFadden’s argument, none of the prepositions identical to the particles of “low” dative verbs, assign only accusative case. They either assign only dative, like *zu* ‘to’, or accusative/dative, like *an* ‘to/at’.

3.2.3 The Syntax of “High” Dative DOCs / Applicative Constructions

For the remainder of this chapter I focus on “high” dative DOCs. For simplicity, I will talk in terms of DOCs, but the claims to be made are only to apply to “high” dative DOCs. In this section I show that German “high” datives should be divided into applicatives of two types: raising and thematic.

3.2.3.1 Thematic Applicatives

I first argue that German has thematic applicatives, and then I account for their syntactic licensing.

Based on Pylkkänen’s verb semantics diagnostic, the German DOC can be a high (thematic) applicative construction, since the dative IO can combine with the static predicate *halten* “hold”, as example (20) illustrates.

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44 Dative/accusative prepositions, such as *an* ‘to/at’ take a dative-marked argument when they have a locational meaning and an accusative-marked argument when they have a directional meaning.

45 “Low” dative verbs never appear with prefixes whose prepositional counterparts assign only accusative case (*bis, durch, für, gegen, ohne, um, wider, entlang*).

46 Pylkkänen’s transitivity diagnostic is inapplicable in German. According to Hoekstra (1988) and Tungseth (2008), among others, “free” datives do not appear with unergative predicates in German, as example (1) below illustrates.

(1) *Fritz hat seinem Bruder geschwommen* (Tungseth 2008:110)

‘Fritz swam for/on his brother.’

According to Tungseth (2008), two conditions need to be met in German in order for a “free” dative to be licensed: (i) the event must be telic (excludes statives and process transitives/unaccusatives), and (ii) there must be an internal argument present in the structure, allowing for transitives and unaccusatives, but excluding unergatives. But Tungseth’s generalization does not account for example (20), in which the verb *halten* ‘hold’ is an atelic predicate, expressing prolonged contact with an entity but no change of possession.
(20) Eva hat mir Jans Rucksack zwei Stunden gehalten

‘Eva held Jan’s backpack for me for two hours.’

Lee-Schoenfeld (2006) and McIntyre (2006, 2009) also provide many examples of event-related (high) applied arguments, such as examples (21a–c). In examples (21a–b) the dative argument is a beneficiary, while in (21c) it is a maleficiary.

(21) a. Er klopfte und sie machte ihm (die Tür) auf  (McIntyre 2006:193)

‘He knocked and she opened the door for him.’

b. Sie hat mir Bushs Ansprache aufgenommen/übersetzt

‘She has recorded/translated Bush’s speech for me.’

c. Sie haben mir das Leben kaputtgemacht

‘I had them ruin my life.’

The syntactic licensing of thematic applicatives in German proceeds as follows (21b’): Appl always bears an EPP feature in German, which I will motivate in the section on raising applicatives (3.2.3.2.1). I further assume that Merge and Move are ordered freely, subject to parametrization across languages (see discussion in Chapter 5). In German, Move precedes...
Merge (contrast to Chichewa instumental applicatives, in which Merge precedes Move). When Appl is merged, its EPP feature attracts the DO to its specifier. Next, IO enters the derivation with an interpretable Case feature, which is valued at Merge with Appl (cf. Bailyn and Citko 1999, who argue that interpretable Case features are valued at first Merge, whereas uninterpretable Case features get valued via Agree with a higher Probe).\(^{47}\) The IO is merged via tucking in below the DO. As soon as \(v\) enters the derivation, DO, being the closest DP with an unchecked Case feature, enters into an Agree relation with \(v\).

\(1^\text{st}: \text{Move} \quad t \quad \text{übersetzen} \)

\(2^\text{nd}: \text{Merge} \quad \text{mir} \quad \text{Appl}^\prime \)

\(3^\text{rd}: \text{Agree} \quad \text{Bushs Ansprache} \quad \text{Appl}^\prime \)

\((21b') \quad \text{vP} \quad \text{sie} \quad v' \)

\(^{47}\) Unlike McFadden (2004), McIntyre (2009), Bowers (2010), and Citko (2011), among others, who base-generate “free” datives in A-positions (McIntyre 2009 and Citko 2011 in the specifier of Pylkkänen’s high ApplP, and Bowers 2010 in the specifier of AffP), Müller (1995a) base-generates “free” datives in an A-bar position (at least for German), namely the specifier of a functional projection \(\mu P\), where dative Case is assigned. It is not clear how “free” datives get a theta-role on Müller’s analysis.
In passive, since the DO is the closest matching goal to T, it enters into an Agree relation with T and raises to its specifier to check its EPP feature. This approach predicts asymmetric DO passivization, which is exactly what is attested in German, as the data in (22) show.  

(22) a. Jans    Rucksack    wurde ihm   gehalten
     Jans GEN backpack NOM PASS me DAT held
     ‘Jan’s backpack was held for me.’

b. *Ich       wurde Jans    Rucksack    gehalten
     I NOM PASS Jan GEN backpack ACC held

3.2.3.2 Raising Applicatives

In this section I describe two types of raising applicatives: (i) dative and accusative IOs which raise from [Spec,VP] to [Spec, ApplP], and (ii) possessor dative DPs which raise from the specifier of the possessed nominal to [Spec, ApplP].

3.2.3.2.1 Raising from [Spec, VP] to [Spec, ApplP]

In German dative DPs may stand in a “having”-relationship with an entity, namely, the DO.

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48 Because ethical datives, like beneficiaries/maleficiaries are referents positively or negatively affected by an event, it is tempting to analyze them as thematic applicatives, i.e., bene-/maleficiaries (cf. Wood to appear). Sentences, where two datives co-occur, such as (13a), repeated below as (1), would be then analyzed as multiple applicative constructions.

(1) Nun kauf    mir    endlich dem Kind   einen Lutscher,  (Wegener 1985:39)
     now buy IMP 2 SG me DAT finally the DAT child DAT a ACC lollipop ACC
     damit es  Ruhe gibt
     so that there peace is
     ‘Now buy the child a lollipop for me, so that we can have some peace of mind.’

Since thematic applicatives look for an event-denoting argument, they should be able to combine with other thematic or raising applicatives, which also denote events (cf. McGinnis 2005). However, treating ethical datives as thematic applied arguments does not explain their special syntactic behavior (cf. section 3.2.1), which contrasts to how true beneficiary/maleficiary applied arguments behave.
What is crucial in the present account is the surface position of the dative DP, which I argue to be outside the lexical VP. Evidence in support of the VP-external surface position of the dative IO comes from the placement of manner adverbs. Manner adverbs may intervene between the IO and the DO in German, as example (23) shows.

(23) Der Hiwi hat den Studenten **heimlich**

   the. NOM teaching. assistant. NOM has the. DAT students. DAT secretly
   einen alten Test ausgeteilt
   an. ACC old. ACC quiz. ACC distributed

   ‘The teaching assistant secretly distributed an old quiz to the students.’

Assuming that *heimlich* ‘secretly’ is positioned on the left edge of VP (Eckardt 1998, 2003), the order in (23) is exactly the order predicted by the raising applicative hypothesis.49

(23’) \[ vP \text{ der Hiwi} [v' [\text{ApplP} \text{ den Studenten}_i \text{ [ApplP } \text{ VP} \text{ heimlich } [\text{VP } t_i \text{ ]]}])]

   the. NOM TA. NOM the. DAT students. DAT secretly
   [v' einen alten Test aussteilen]]]
   an. ACC old. ACC test. ACC distribute

Because the position of manner adverbs in German is still under debate (cf. Eckardt 1998, Frey and Pittner 1998, Laenzlinger 2002, Eckardt 2003, Schäfer 2005, among others), I elaborate my argument by providing evidence from quantifier floating data. As shown in (24), the quantifier *alle* ‘all’ can occur to the right of IO. Following Doetjes (1997) and Fitzpatrick (2006),

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49 This assumption is consistent either with the view that manner adverbs are adjoined to VP, or that they occupy a functional projection above VP (cf. Cinque 1999).
I assume that quantifier floating of the exhaustive quantifier alle ‘all’ is adverbial. Unlike manner adverbs, adverbial quantifiers need to take scope over their associate, here the IO den Studenten ‘the students’. Fitzpatrick (2006) argues that adverbial floating quantifiers restrict their associates to A-movement, which is exactly what the raising hypothesis requires.

(24) Der Hiwi hat [den Studenten]i alleni einen alten Test ausgeteilt
the.NOM TA.NOM has the.DAT students.DAT all.DAT an.ACC old.ACC test.ACC distributed
‘The TA has distributed an old test to all the students.’

(24’) [vP der Hiwi [v [AppP den Studenten] [AppP Appl [VP alleni [VP ti
the.NOM TA.NOM the.DAT students.DAT all.DAT
[ [v einen alten Test austeilen]]]]]]

an.ACC old.ACC test.ACC distributed

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50 Fitzpatrick (2006) argues that exhaustive floating quantifiers in German, among other languages, have the distribution of adverbial elements. That is, they do not appear in NP/DP argument positions, as would be predicted under a stranding analysis. According to Fitzpatrick the properties of adverbial floating quantifiers are the following: (i) they show agreement, (ii) they sometimes contain overt pronouns (e.g., in Hebrew), (iii) they show locality effects, (iv) they show differences in DP/pronoun acceptability (data for this restriction comes from German and French), and (v) they disallow A-bar movement of the associated NP. To account for the above properties, Fitzpatrick proposes that adverbial floating quantifiers contain a possibly null pronominal-like element, and must bind a variable.

51 Paul and Whitman (2010) use the same argument in support of raising applicatives in Mandarin, as discussed in Chapter 2.

52 Sentences with a floating quantifier and two different types of adverbs, manner and event-external adverbs, reveal an interesting contrast, as shown in (1) and (2) below. Assuming that adverbial quantifiers scope over their associate and restrict them to A-movement (Fitzpatrick 2006), and event-external adverbs (here schnell ‘without further delay, quickly’) are adjoined to vP/PredP, in example (1) the recipient goal IO A-moves over the manner adverb heimlich ‘secretly’ to [Spec, ApplP] and from there over schnell to [Spec, vP/PredP]. Interestingly, example (2), a sentence with the same pattern but with a beneficiary instead of a goal is degraded for some speakers. This I interpret to suggest that raising to [Spec, ApplP] only happens in the case of IO possessors, i.e., raising applicative constructions.

(1) ?Der Hiwi hat den Studenten schnell heimlich allen einen alten Test ausgeteilt
the.NOM TA.NOM has the.DAT students.DAT quickly secretly all.DAT an.ACC old.ACC test.ACC distributed
‘Without further delay the TA secretly distributed an old test to all the students.’

(2) ?*Die Mutter hat [den Kindern], schnell liebevoll allen, Schokoladenkekse gebacken
the.NOM mother.NOM has the.DAT children.DAT quickly lovingly all.DAT chocolate.cookies.ACC baked
‘Without further delay the mother lovingly baked chocolate cookies for all the children.’
Note that possessor/recipient IOs move to [Spec, ApplP] only in raising applicative structures. McFadden (2004) predicts a contrast between “low” and “high” dative DOCs by base-generating the IO in [Spec, ApplP]. But his account fails to predict the contrast between Pylkkänen’s low and high applicatives, which does exist in German, as I showed above.\footnote{Bowers’ (2010) account of the German data also fails to predict the contrast between Pylkkänen’s low and high applicatives.} Crucially, McFadden’s account does not predict the data in (24), unless he assumes that adverbial quantifiers are adjoined to ApplP. Also Pylkkänen’s (and consequently McIntyre’s 2009) account of low applicatives is problematic regarding the data in (24), since in her analysis A-movement of the possessor IO out of ApplP or/and VP has to be posited to explain the facts, but the landing site is unclear.

Based on the evidence discussed above showing that the IO raises above VP, I assume that Appl in German always bears an EPP feature triggering raising of the highest nominal argument in VP to [Spec, ApplP]. In the derivation in (25), DO and V are first merged in V’ and then IO is merged in [Spec, VP]. I assume that IO bears quirky Case in German. Following Citko (2011), I take quirky Case to be a combination of an interpretable Case feature and an uninterpretable Case feature. Thus, IO enters the derivation with an interpretable Case feature which is checked via Merge in [Spec, VP] and an uninterpretable Case feature. In the next step of the derivation, Appl is merged. Appl bears an uninterpretable Case feature. The EPP on Appl triggers movement of the IO to [Spec, ApplP] and values its Case feature.\footnote{Citko (2011) proposes similar syntactic licensing for languages with an inherently Case-marked IO, such as Polish, but she posits an extra head, appl to account for the data. The approach developed here is more economical than Citko’s in that no extra applicative head is proposed.} Then v is merged with Appl and Agree is established between v and the closest DP with an unchecked Case feature, namely the DO. I assume that checking of the Case features of IO prior to Merge of v eliminates the IO as a possible intervener (Bowers 2010, Paul and Whitman 2010, Citko 2011, among others).
The proposed analysis of raising applicatives predicts asymmetric DO passivization, which is borne out by the data in (26). Since all the features of the IO have been checked prior to passivization, it cannot undergo further A-movement to [Spec, TP]. This explains the ungrammaticality of (26b). Furthermore, assuming that a DP with all its features checked does not constitute an intervener readily explains the grammaticality of (26a), where the DO is passivized.

(26) a. Ein alter Test wurde den Studenten ausgeteilt
    an.NOM old.NOM test.NOM PASS the.DAT students.DAT distributed
    ‘An old test was distributed to the students.’

    b. *Die Studenten wurden einen alten Test ausgeteilt
        the.NOM students.NOM PASS an.ACC old.ACC test.ACC distributed
        ‘The students were distributed an old test.’

Note that although Mandarin and German allow both asymmetric DO passives, they differ with
respect to the Case features of IO. In particular, while in Mandarin the IO bears one uninterpretable Case feature, in German IO enters the derivation with an uninterpretable and an interpretable Case feature. Under this analysis, both the widely accepted view that German IOs in DOCs bear inherent dative Case (cf. Haider 1985, Vogel and Steinbach 1998, McFadden 2004, Platzack 2005, McIntyre 2006, among others), and the evidence that the IO raises out of VP are captured.

With the so-called ‘didactic’ verbs, e.g., *lehren* ‘teach’, *abhören* ‘quiz’, both the goal and the theme may be expressed with accusative case in German (Abraham 1983), as example (27) illustrates.

(27) Frau Schmidt lehrt die Kinder die deutsche Grammatik

Mrs Schmidt teaches the children the German grammar.

The goal of ‘didactic’ verbs may also bear dative case, as Draye (1996) notes. 55

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55 According to Duden (http://www.duden.de/newsletter/duden-newsletter-vom-20-08-10), active *lehren* appears more frequently with an accusative rather than a dative goal. However, in passive the use of the dative variant (1) (the DO is passivized) (1) is more common than the use of the accusative variant (the IO is passivized) (2).

(1) Ihm wurde das Schweigen gelehrt

him.DAT PASS the.NOM silence.NOM taught

*DO passivization*

(2) Er wurde das Schweigen gelehrt

he.NOM PASS the.ACC silence.ACC taught

*IO passivization*

‘Silence was taught to him.’

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Example (28) is a dative raising applicative. Following Draye (1996) who argues that there is no semantic difference between the two DOC variants, I propose that double accusative constructions in German are raising applicative constructions which differ from dative raising applicatives in that both $v$ and Appl have Probes assigning accusative Case.\footnote{Cf. Citko (2011) and Haddican and Holmberg (2011) who also assume that Appl may have a Probe.} The syntactic licensing of double accusative constructions proceeds as follows (29): DO and V are first merged in V’ and then IO is merged in [Spec, VP]. IO moves to [Spec, ApplP] to check the EPP feature of Appl. Appl, bearing an uninterpretable Case feature enters into an Agree relation with the closest matching DP, the DO, and values its Case feature as accusative. At this point Appl no longer c-commands every member of the chain headed by the IO. Then $v$ is merged with Appl and Agree is established between $v$ and the closest eligible goal in its c-command domain, i.e., the IO in [Spec, ApplP]. $v$ values the Case feature of IO accusative.
This analysis of German double accusative constructions predicts goal passivization. Since passive morphology absorbs v’s ability to value Case, T is the closest Probe that can value the Case of IO. As a result IO undergoes passive movement, which is exactly what is shown by the data in (30).

(30) Er wurde das Schweigen gelehrt
He.NOM PASS the.ACC silence.ACC taught
‘He was taught silence.’ (http://www.duden.de/newsletter/duden-newsletter-vom-20-08-10)

Note that the syntactic licensing of applicative constructions with didactic verbs is exactly the same as the syntactic licensing of DOCs in Standard American English.
3.2.3.2 Raising from [Spec, DP_{ACC}] to [Spec, ApplP]: Possessor Raising

German, like many languages, has a construction known as external possession (cf. Vergnaud and Zubizaretta 1992, Landau 1999, Payne and Barshi 1999, Lee-Schoenfeld 2006, Deal 2010, among many others), where a nominal (in dative case in German) acts both as a possessor of the DO and a benefactive/malefactive argument of the verb. Examples from German are given in (31).

(31) a. Tim hat der Nachbarin das Auto (Lee-Schoenfeld 2006:102)
    Tim.NOM has the.DAT neighbor.DAT the.ACC car.ACC
gewaschen
    washed
    ‘Tim washed the neighbor’s car.’

b. Tim ruiniert Lena den schönen (Lee-Schoenfeld 2006:108)
    Tim.NOM ruins Lena.DAT the.ACC beautiful.ACC
    Garten
garden.ACC
    ‘Tim ruins Lena’s beautiful garden.’

I follow Lee-Schoenfeld (2006) in base-generating possessor datives in the specifier of the possessee DO and then raising them to [Spec, ApplP] (specifier of Pylkkänen’s high applicative head in Lee-Schoenfeld’s account). Crucially, D, the head of the possessee DO is a non-Case-licensing (defective) head. Raising of the possessor to [Spec, ApplP] results in
assignment of a second theta-role, namely benefactive/malefactive,\textsuperscript{57} and licensing of inherent dative Case by Appl.\textsuperscript{58}

Contra Lee-Schoenfeld’s possessor raising account, McIntyre (2009) argues in support of base-generating the possessor dative in the specifier of Pylkkänen’s high applicative (cf. Cuervo 2003, Bowers 2010, and Bosse et al. to appear for similar accounts involving base-generation in an App/Aff(ected) head and no raising). His main argument against possessor raising is based on examples such as (32a-b). Hole (2008) and McIntyre (2009) argue that on a possessor raising account examples (32a–b) are expected to be ungrammatical, since multiple possessions, (here Kopf ‘head’ and Leib ‘body’) entailing multiple possessors (ihm ‘him’), raised into the same specifier would cause the derivation to crash.

(32) a. Paul hat \textit{seiner} \textit{Tochter} (Hole 2008:270)

Paul.NOM has POSS.3SG.MASC.DAT daughter.DAT
die Haare gewaschen und die Nägel saubergemacht
the.ACC hair.ACC washed and the.ACC nails.ACC cleaned
‘Paul washed his daughter’s hair and cleaned her nails.’

\textsuperscript{57} As Lee-Schoenfeld (2006) argues, double theta-role assignment does not necessarily violate the Theta-Criterion. In Minimalism heads with their selectional features are introduced in the course of the derivation. Thus, having a newly built sentence domain means possibility of a new theta-role assignment. Crucially, overgeneration of double theta-role assignment is avoided by requiring that movement be driven strictly by formal (Case) features, never by thematic needs.

\textsuperscript{58} There are languages, e.g., Hebrew (Pereltsvaig 2003), Choctaw (Davies 1986, Broadwell 2006), Tzotzil (Aissen 1987), and Nez Perce (Deal 2010), in which raising of the possessor dative does not result in assignment of a second theta-role. For instance, in example (1) from Nez Perce (Deal 2010:14) there is no evidence of any affectedness constraint on the possessor. The possessor may be long dead.

(1) pee-x-te-ne’n-yu’ Cooset-ne temikees naaqc hiisemtuks-pe
  3/3-see-go-PR-PROSP Joseph-OBJ tomb one moon-LOC
  ‘They will go see Joseph’s tomb next month.’

Following Deal (2010), I assume that non-thematic possessor raising involves Object Shift within vP without assignment of a new theta-role (Johnson 1991).
b. Der Henker hat ihm den Kopf 

the.NOM executioner.NOM has him.DAT the.ACC head.AC

vom Leib getrennt

from.the.DAT body.DAT separated

‘The executioner separated his head from his body.’

However the grammaticality of (32a–b) can be explained if one assumes Across-the-Board-Movement (Ross 1967), which is defined as simultaneous movement of an element from multiple source positions (specifiers of DP1 and DP2 in 32a’) to a single target position (specifier of ApplP).

(32b’) Der Henker hat ihm\(_t\) [DP\(_t\) \(t\) den Kopf] von

the.NOM executioner.NOM has him.DAT the.ACC head.AC from

[DP\(_t\) \(t\) dem Leib] getrennt

the.DAT body.DAT separated

McIntyre also criticizes Lee-Schoenfeld’s account of sentences with an embedded possesse, as in (33). On a possessor raising analysis, (33) would be ungrammatical, because the dative cannot be raised out of the embedded DP.

(33) Mir\(_i\) fiel der Hammer auf [DP die Spitze

me.DAT fell the.NOM hammer.DAT on the.ACC tip.AC

[DP des linken Zeigefingers]]

the.GEN left.GEN index.finger.GEN

‘The hammer fell on the tip of my left index finger.’
Lee-Schoenfeld argues that the possessor dative *mir* ‘me’ in (33) is not a possessor but a malefactive, originating in the specifier of high Appl, pragmatically interpreted as a possessor. More specifically, the left index finger in (33) must be interpreted as belonging to the referent of the dative *mir*. However, since the finger in (a) and the tip in (b) are necessarily possessed by the same person as the left hand and the left index finger, the possessor relation between the PD and the embedded DP need not be syntactically encoded. Lee-Schoenfeld provides the data in (34) to corroborate her argument.

(34) a. ?Ein guter Ehemann massiert seiner (Lee-Schoenfeld 2006:114)
    Frau jeden Abend ihren Rücken
    a. NOM good.NOM husband.NOM massages POSS.3SG.MASC.GEN
    wife.DAT every.ACC evening.ACC POSS.3SG.FEM.GEN back.ACC
    ‘A good husband massages his wife’s back every night.’
    b. Mir fiel der Hammer auf [die Spitze [meines linken
      Zeigefingers]]
      index:finger.GEN
    ‘The hammer fell on the tip of my left index finger.’

Both examples involve a body-part nominal specified by a possessive pronoun, but, while (34a) is degraded, (34b) is not. Lee-Schoenfeld concludes that the possessor dative in (34b) does not originate in the position occupied by the possessive pronoun, i.e. the specifier of the embedded DP, since the possessive pronoun in (34b) can co-occur with the possessor dative *mir* without degrading the utterance at all. She proposes that *mir* either originates in the possessor position of the larger DP, *die Spitze meines linken Zeigefingers* ‘the tip of my left index finger’, or is really a maleficiary high applicative, not standing in a possessor relation at all.
McIntyre disagrees with Lee-Schoenfeld’s bipartite analysis of possessor datives, namely pragmatically and structurally licensed, and suggests a uniform analysis instead, according to which possessor datives merge in the specifier of high ApplP.

A possessor raising analysis of (33) may be maintained if a layered PP structure for locative phrases is employed. More specifically, in the spirit of Svenonius (2006), I assume that Spitze ‘tip/top’ is not a noun, but lexicalizes a functional projection, Ax(ial)Part. On an account like Svenonius’s where P is decomposed into a series of functional phrases, including AxPartP, the possessor mir ‘me’ in (33) can raise from the specifier of the DP des linken Zeigefingers ‘of the left index finger’ to [Spec, ApplP]. The derivation of (33) is presented in (33’) below.

(33’) [ApplP mir, [Appl’ Appl [VP der Hammer [V’ [PlaceP auf [AxPartP die Spitze me.DAT the.NOM hammer.NOM on the.ACC tip.ACC

[dp K [dp t1 [dp des [np linken Zeigefingers]]]]] fallen]]]

the.gen left.gen index.finger.gen fall

Svenonius (2006) observes that many languages have specialized locative words or morphemes roughly translating into words such as ‘front,’ ‘back,’ etc. Often, these words are used instead of more specialized adpositions to express spatial meanings corresponding to ‘behind,’ ‘above,’ etc. On the basis of a crosslinguistic survey of such expressions, Svenonius (2006) argues that in many cases they motivate a syntactic category which is distinct from both noun and preposition, which he calls Axial Part (AxPart). Svenonius applies four diagnostic tests to distinguish the AxPart use of front from its noun use in English: the plural test (AxPart cannot be pluralized), the adjectival modification test (AxPart cannot be modified by an adjective), the measure phrase test (measure phrases are acceptable with many locative expressions, e.g., there was a boy two ft in front of the car, but *there was a boy two ft in the front of the car), and the pro-form test (AxPart does not admit replacement of its projections by proforms). I applied three of the four diagnostics to Spitze to test whether Spitze can be an AxPart in German (the measure phrase test is not applicable to German). Although Spitze may get pluralized (example 1a is from www.brigitte.de/beauty/make-up/dosdonts-534223), it cannot get pronominalized (1b).

(1) a. Wenn Sie Wimperntusche auftragen, darf nicht zu viel Farbe auf die Spitzen der Härchen gelangen.
   ‘When you apply mascara, the ends of the eyelashes should not have too much color.’
   ‘My brother wants to climb to the top of the mountain, because I also climbed to it recently.’

I also searched for the string “auf die ADJ Spitze + DPGEN” in the Huge German Corpus (HGC), but the search resulted in no hits. As Svenonius points out, the exact diagnostics differ from language to language. Investigating what the exact properties of German AxPart are is subject to future work.
Pylkkänen (2002, 2008) also argues against a raising account of possessor datives and proposes base-generating them in the specifier of low source Appl.\(^6\) Below I summarize two arguments against Pylkkänen’s analysis, as they appear in Lee-Schoenfeld (2006).

Lee-Schoenfeld’s first argument involves Pylkkänen’s verb semantics diagnostic for the high-low applicative distinction: Since the event in a low applicative construction must result in transfer of possession, the verb cannot be stative. When applied to German, however, this diagnostic does not support Pylkkänen’s claim. The fact that example (35) with the stative verb *halten* ‘hold’ is grammatical indicates that the transfer of possession relation, characteristic of low applicatives, does not hold for the German possessor dative facts (see also example 20 in Section 3.2.3.1 on thematic applicatives).

(35) Ich habe ihm die Tasche gehalten (Lee-Schoenfeld 2005:4)

I.NOM have him.DAT the.ACC bag.ACC held

‘I held his bag for him.’

Moreover Pylkkänen appeals to the transfer of possession relation between the low applied argument and the DO to account for the obligatory possessor relation which holds between the possessor dative and the possessed nominal. In Pylkkänen’s system, this possessor relation must always coincide with transfer of possession. The notion of possession transfer is compatible with the obvious loss of possession expressed by Pylkkänen’s Korean example in (36) (the ring was taken away from Mary).

(36) Totuk-i Mary-hanthey panci-lul humchi-ess-ta (Pylkkänen 2002:21)

thief-NOM Mary-DAT ring-ACC steal-PAST-PLAIN

‘The thief stole a ring from Mary.’

\(^6\) Pylkkänen specifically argues against Landau’s (1999) possessor raising analysis.
It can also be extended to account for the Finnish examples in (37). In (37a), it is possible to interpret the event of Riikka’s seeing the undershirt as a loss of privacy for Sanna, the possessor of the shirt. Pylkkänen argues that the transfer of possession relation is reflected in the privacy of the undershirt being taken from Sanna. By contrast, in (37b), where the DO is an overcoat, no loss of privacy is involved, and hence, no transfer of possession has taken place. As predicted by Pylkkänen’s analysis, Riikka's seeing Sanna’s overcoat cannot be expressed as a possessor dative construction (37b).

(37) a. Riikka näki Sanna-lta aluspaidan

   Riikka.NOM saw Sanna-ABL undershirt-ACC

   ‘Riikka saw Sanna's undershirt.’

b. #Riikka näki Sanna-lta päällystän

   Riikka.NOM saw Sanna-ABL overcoat-ACC

   ‘Riikka saw Sanna's overcoat.’

Lee-Schoenfeld, however, observes that the abstract notion of privacy loss as an instance of possession transfer does not capture the German data in (38a-b). In particular, the car in (38a) is “publicly possessed”, yet compatible with a possessor dative construction. Similarly, in (38b) the husband’s massaging his wife’s back in is not an event associated with loss of privacy.

(38) (Lee-Schoenfeld 2005:4)

a. Tim hat der Nachbarin gestern das Auto gewaschen

   Tim.NOM has the.DAT neighbor.DAT yesterday the.ACC car.ACC washed

   ‘Tim washed the neighbor’s car for her yesterday.’
b. Ein guter Ehemann massiert seiner Frauia. NOM good.NOM husband.NOM massages POSS.3SG.MASC GEN wife
jeden Abend den Rücken
each.ACC evening.ACC the.ACC back.ACC
‘A good husband massages his wife’s back every night.’

Based on the examples in (38), it seems that transfer of possession is not a requirement, and is not at all representative of possessor dative affectedness.

Lee-Schoenfeld’s second argument against analyzing possessor datives as low applicatives is that a low applicative cannot stand in a relation to a DP that is embedded in a PP. This is illustrated by the ungrammatical English example in (39).

(39) *John sat Mary in the car.  (Pylkkänen 2002:56)
(39) *John sat Mary in the car.  (Pylkkänen 2002:56)
(Intended meaning: ‘John sat in a car which was to Mary’s possession.’)

Based on the ungrammaticality of (39), Pylkkänen claims that the Hebrew example in (40), which looks like a possessor dative construction with a PP-embedded possessee, is really a be-possessor construction. More specifically, the dative, le-Rina, in (40) is argued to be introduced by the verb to be, as in simple possessor constructions like Jon has a son, literally (there) is to Jon a son.

(40) Gil gar le-Rina ba-xacer  (Landau 1999:4)
Gil lives to-Rina in-the-yard
‘He lives in Rina’s yard.’

This line of argumentation leads to the prediction that only languages, like Hebrew, which use
be, not have, in simple possessor constructions, allow possessor-dative-like constructions in which it is possible for the possessee to be embedded in a PP. Standard German does not have be-possessor constructions and is thus predicted to disallow a PP-embedded possessee. This is counter to fact, though, as shown by the examples in (41).

(41) a. Er stand ihr [auf dem Fuß] (Lee-Schoenfeld 2005:5)
   he.NOM stood her.DAT on the.DAT foot.DAT
   ‘He stood on her foot.’

   b. Eine Katze kommt meinen Eltern nicht [in:ins Haus]
   a.NOM cat.NOM comes POSS.1SG.DAT parents.DAT not in:the.ACC house.ACC
   ‘A cat is not allowed in my parents’ house.’

In sum, all the German facts discussed by Lee-Schoenfeld (2006) are correctly accounted for by her analysis, which takes the possessor dative construction in German to be a high applicative construction, the possessive aspect of its meaning derived by possessor raising rather than a transfer of possession relation. An A-movement account of the possessor dative construction makes the right prediction with respect to examples such as the ones in (41). Raising of the possessor out of a PP is expected to be grammatical, as long as the PP is an argument.

So far, I have shown how German DOCs can be accounted for by the raising/thematic applicative hypothesis. In the following section, I provide novel data from stranding, confirming the base order IO>DO, which is the order exactly predicted by the raising/thematic applicative hypothesis.
3.3 German and the Universal Base Order of Objects in DOCs

In the recent literature on German DOCs, it has been argued that the DO is base-generated higher than the IO, and the order <IO, DO> is the result of A-bar movement (den Dikken 1995, Müller 1995, McGinnis 1999, among others). This makes German a counterexample to the crosslinguistic generalization that IOs are merged higher than DOs in DOCs (Marantz 1993, Pesetsky 1995, Arad 1998, Boeckx and Niinuma 2003, Miyagawa and Tsujiioka 2004, Meinunger 2006, Bowers 2010, Citko 2011, among others). In Section 3.3.1 I provide compelling arguments from depictive and quantifier stranding as well as split topicalization in support of the view that German in fact respects the crosslinguistic generalization about the underlying order of objects in DOCs. In Section 3.3.2 I discuss the main arguments of the proponents of the DO>IO base order.

3.3.1 Stranding Reveals IO>DO Base Order in German DOCs

Previously unnoticed data from depictive stranding in German “high” dative DOCs support the hypothesis that IO>DO is the underlying order. Depictives in German can be predicated of DOs (42a), but not of IOs (42b), and can be stranded by A-movement, for example by passive (42c) or unaccusative (42d) movement.

(42) a. Er hat Jan [das Bier]i lauwarmi serviert
he.NOM has Jan.DAT the.ACC beer.ACC lukewarm served
‘He served the beer to Jan lukewarm.’

61 Tungseth (2008) argues that the order <IO, DO> is derived in German, but she does not discuss the type of movement.
b. Er\textsubscript{i} hat Jan\textsubscript{j} das Bier nackt\textsubscript{i/*j} serviert
   he.NOM has Jan.DAT the.ACC beer.ACC naked served

c. [Das Bier], wurde von dem Kellner lauwarm\textsubscript{i} serviert
   the.NOM beer.NOM PASS by the.DAT waiter.DAT lukewarm served
   ‘The beer was served lukewarm by the waiter.’

d. Eva\textsubscript{i} ist aus München müde\textsubscript{i} zurückgekommen
   Eva.NOM is from Munich tired returned
   ‘Eva returned tired from Munich.’

My account of depictives is consistent either with the DO and the depictive forming a constituent (Marusic et al. 2008), or with the DO controlling PRO in the specifier of the depictive small clause (Bowers 1993, among others). In the latter case, no other eligible controller (DP) may intervene between the depictive and PRO due to the Minimum Distance Principle (Rosenbaum 1967). Crucially, depictives can be stranded by ACC DAT depictive stranding, as shown in (43): the depictive lauwarm ‘lukewarm’ is stranded in the base position of the DO das Bier ‘the beer’, which moves to the left of the IO Jan.

(43) Er hat [das Bier], Jan\textsubscript{i} lauwarm\textsubscript{i} serviert
   He.NOM has the.ACC beer.ACC Jan.DAT lukewarm served
   ‘He served the beer to Jan lukewarm.’

The base order IO>DO is further supported by evidence from quantifier floating (44).\textsuperscript{63} Following Fitzpatrick (2006), I assume that the quantifier allen in (24), repeated below, has to scope over the IO. IO A-moves from its base position in [Spec, VP], to which the quantifier is

\textsuperscript{63} This data has been previously discussed in the literature (Giusti 1990, Merchant 1996, among others), but this is the first time it is brought up in the discussion of the base order of objects in DOCs.
adjoined, to [Spec, ApplP], while the DO remains in situ.

(24) Der Hiwi hat [den Studenten], allen, einen alten Test ausgeteilt

the.NOM TA.NOM has the.DAT students.DAT all.DAT an.ACC old.ACC test.ACC distributed

‘The TA has distributed an old test to all the students.’

The last piece of evidence in support of IO>DO, newly contributed here, comes from split-NP (split-topicalization) data. In example (44) the noun Hemden ‘shirts’ is “split” apart from its quantifier viele ‘many’ and occurs in the Vorfeld topic position.

(44) Hemden, habe ich dem Jungen viele, gekauft

shirts.ACC have I.NOM the.DAT boy.DAT many.ACC bought

To account for the data in (44), I follow Ott (2011), who argues that the fronted part and the stranded part in a split-NP construction underlyingly merge as DP subject (stranded part) and an NP predicate (fronted part)\footnote{Ott (2011) assumes that the stranded part of the split-NP construction is always a proper argument, i.e. it always denotes individuals (or sets of individuals) rather than properties. In example (1) below the stranded part can be resumed by a pronoun, even if on the surface it is only an adjective, a numeral or an indefinite noun phrase. (1) Gute Bücher, habe ich erst eins gelesen. {*Sie waren / Es, war} von Stephen King (Ott 2011:68)

good books have I only one read they were it was by Stephen King

What the above facts bring out is that while the stranded part, eins, is referential, the fronted one is not. This is exactly what Ott’s approach predicts: while the fronted part is an open nominal expression, the stranded part is always a closed one.}

\footnote{Following Moro (2000) and Chomsky (2010), Ott (2011) assumes that Merge of two XPs within a single argument or adjunct position yields a structure for which no label (‘head’) can be detected by Minimal Search (‘for any \{α, β\}, α is the head if α is a lexical item’). Therefore, one of the two noun phrases has to move, yielding the ‘split’ in overt form.} in a
thematic position higher than the IO, *dem Jungen* ‘the boy’, renders the sentence ungrammatical.

(45) ?*Hemden*$_i$ habe ich *viele*$_i$ dem Jungen gekauft

shirts.ACC have I.NOM many.ACC the.DAT boy.DAT bought

In the following section, I discuss the principal arguments of the proponents of the DO>IO account.

### 3.3.2 DO>IO Base Order Accounts

The main proponents of the idea that DO>IO is the underlying order in German DOCs are den Dikken (1995), Müller (1995 and subsequent work) and McGinnis (1999). Their primary argument in support of DO>IO comes from Grewendorf’s (1984, 1988) and Webelhuth’s (1989) anaphor binding data in (46) and (47) respectively, which suggest that dative IOs cannot bind accusative DOs to their right.\(^{66}\)

\(^{66}\) Grewendorf (1988) observes that the dative IO binds the accusative DO, when the co-indexed DO is a personal pronoun, as shown in (1a) below.

(1) a. Der Arzt zeigte dem Patienten$_i$ ihn$_i$ im Spiegel (Grewendorf 1988:58)

b. *Der Arzt zeigte den Patienten$_i$ ihm$_i$ im Spiegel*

By using example (2), where a quantified dative antecedent binds the accusative pronoun *ihn* ‘him’, Schäfer (2008) shows that (1a) in fact involves real binding between the IO and a variable DO:

(2) Man sollte einem/jedem Politiker immer *ihn/*sich$_i$ als Verhandlungsführer vorschlagen

‘One should always propose to a/every politician himself as a principal negotiator.’

To account for the different behavior of pronouns and reflexives in German binding contexts, Schäfer suggests that the realization of a bound variable as a reflexive or a pronoun is a PF-phenomenon.

the.NOM doctor.NOM showed the.DAT patient.DAT REFL

in.the.DAT mirror.DAT

‘The doctor showed himself to the patient in the mirror.’

b. Der Arzt zeigte den Patienten, sich im Spiegel.

the.NOM doctor.NOM showed the.ACC patient.ACC REFL

in.the.DAT mirror.DAT

‘The doctor showed the patient to himself in the mirror.’

(47) a. *Er hat den Gästen einander vorgestellt

he.NOM has the.DAT guests.DAT RECIP introduced

b. Er hat die Gäste einander vorgestellt

he.NOM has the.ACC guests.ACC RECIP introduced

‘He introduced the guests to each other.’

Sternefeld and Featherston (2003), however, show that judgments for sentences with a reflexive anaphor vary considerably (compare 46 to 48–49). More specifically, Frey (1993) considers example (46a) grammatical, while Frey (1989) and Sternefeld and Featherston (2003) even report on data where the DO does not bind the anaphor IO, as in (48a-b) below.

(48) a. *weil ich die Maria

because I.NOM the.ACC Maria.ACC

sich im Spiegel gezeigt habe

REFL in.the.DAT mirror.DAT shown have
b. *weil ich den Peter sich überlassen wollte

because I.NOM the.ACC Peter.ACC REFL leave.to.his.own.devices wanted

Furthermore, Sternefeld and Featherston (2003) provide sentences with pronouns where an anaphor can be bound either by an IO or a DO.67

(49) a. Fritz zeigte ihr sich                  (Sternefeld and Featherston 2003:239)

  Fritz.NOM showed her.DAT REFL

  im Spiegel

  in.the.DAT mirror.DAT

b. Fritz zeigte sie sich im Spiegel

  Fritz.NOM showed her.ACC REFL in.the.DAT mirror.DAT

However judgments for sentences with reciprocals, such as those in (47), are not disputable, which seems to corroborate the generalization that DOs originate higher than IOs.

As a result of a magnitude estimation experiment, Sternefeld and Featherston found that the reciprocal einander is preferred as IO rather than DO. Sternefeld and Featherston account for this behavior by arguing that the reciprocal tends to behave like an adjunct rather than an object. Given that the dative is the only Case that marks adverbial (“free”) DPs in German,68 Sternefeld and Featherston propose that the asymmetry observed with reciprocals is not the result of grammatical constraints but rather reflects a general tendency to interpret einander as a dative

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67 Note that neither (48) nor (49a) can be accounted by Müller’s, den Dikken’s and McGinnis’s analyses.

68 I assume that Sternefeld and Featherston refer to thematic applied arguments here and not adverbial DPs, which actually happen to bear either genitive or accusative but not dative, as illustrated below in (1a-b).

(1) a. Er hat letzten Sonntag das Museum besucht

  he.NOM has last.ACC Sunday.ACC the museum visited

  ‘He visited the museum last Sunday.’

b. Eines Tages besucht er das Pergamon Museum

  some.GEN day.GEN visits he.NOM the.ACC Pergamon museum.ACC

  ‘Someday he will visit the Pergamon Museum.’
DP. Reflexives, on the other hand, being interpreted as simply bound variables, are not subject to these considerations.

Even if one accepts the judgments in (46) and (47), one can account for the ungrammaticality of (46a) and (47a) by assuming that the anaphor *sich/einander* raises from its base position within the lexical VP to its Case checking position, outer [Spec, vP]. Thus, the IO cannot bind the reflexive DO from its base position, [Spec, VP]. That the anaphors in (46a) and (47a) can be bound by the respective DOs is explained by the fact that the IOs bear inherent Case in [Spec, VP] and can be bound by the DOs in the outer specifier of vP. 69

An argument against movement of the DO anaphor to [Spec, vP] to check Case may be the claim that reflexives and reciprocals do not need to check Case (Müller and Sternefeld 1994, Müller 1995), which is supported by the data in (50-51) below.

(50) a. dass **sich** jetzt gewaschen wird 
   that REFL now washed PASS
   b. *dass **den** Fritz jetzt gewaschen wird
      that the.ACC Fritz.ACC now washed PASS

(51) a. Hier wird einander nicht verprügelt
    here PASS RECIP not beaten
   b. *Hier wird **den** Fritz nicht verprügelt
      here PASS the.ACC Fritz.ACC not beaten

What is suggested by the examples in (50) and (51) is that the anaphors *sich* and *einander* have stayed in situ, bound by an empty subject, instead of moving to the subject position. Yet, as Sternefeld and Featherston (2003) observe, lack of Case on reflexives/reciprocals would lead us

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to expect that they should appear in ungoverned positions. This is, however, not the case, as example (52) shows.

(52) Manfred bittet darum, PRO/*sich bald mal (Sterenefeld and Featherston 2003:246)

Manfred.NOM asks for.it PRO/REFL soon PRTCL
bedient zu werden
served to be
‘Manfred asks to be served soon.’

Crucially, Müller’s and den Dikken’s analyses do not account for the data in (53) (first observed by Sabel 1996), where the anaphor is embedded in the DO and the IO c-commands the DO. Note that picture-noun reflexives are never logophoric in German (Kiss 2001). From its base position, being c-commanded by DO, IO cannot bind either a reflexive DO or a reflexive embedded in the DO both in Müller’s and den Dikken’s accounts. Also movement of the IO to an A-bar position above the DO (specifier of μP for Müller and position adjoined to VP for den Dikken) does not lead to binding of either a reflexive DO (predicted by both accounts) or a reflexive embedded in the DO.

(53) a. weil Eckhardi dem Mannj ein Bild (Sabel 1996:34)

because Eckhard.NOM the.DAT man.DAT a.ACC picture.ACC
von sich[i]j.DO zeigte
of REFL showed
‘because Eckhard showed the man a picture of himself’
b. Sicher hat der Hausbesitzer den neuen Mietern
certainly has the house.owner the dat new dat tenants

die Nachbarn von einander
the neighbors of each other introduced

??‘The house owner certainly introduced the new tenants the neighbors of each other.’

McGinnis (1999), on the other hand, claims that her Lethal Ambiguity analysis accounts for the data in (53). Yet, it is not clear what structure McGinnis assumes for German DOCs and to which position the IO A-scrambles. Assuming that in McGinnis’s account DO originates in [Spec, VP] and IO is the complement of V, movement of the IO to the outer specifier of V violates domain-based anti-locality (Grohmann 2003).

To conclude this discussion on anaphor binding, what is important is that anaphor binding is an intricate diagnostic test for base word order in German dative DOCs, partly because of the many options for A-movement.

The other main argument that has been used in support of DO>IO as underlying order is related to pronoun word order in the middle field (Müller 1995 and subsequent work). As observed by Lenerz (1977, 1993), among others, fronting of object pronouns to the left edge of the middle field results in a fixed sequence, which respects the order <DO, IO> (54). Müller uses these facts to argue that a pronoun sequence is well-formed if parallel movement can reconstruct each pronoun in its theta-position.

(54) a. dass es ihm der Fritz gegeben hat
    that it acc him dat the nom Fritz nom given has
    ‘that Fritz gave it to him’

b. *dass ihm es der Fritz gegeben hat
    that him dat it acc the nom Fritz nom given has
However, the allegedly ungrammatical order of pronouns, <IO, DO>, does occur (cf. examples in 55), even if its occurrence is not as frequent as <DO, IO> (Engel 1972, Lenerz 1993, Featherston and Sternefeld 2003, Sternefeld and Featherston 2003). Also Müller (2001) himself notes that there are problems with the parallel movement analysis of the pronoun word order facts.

(55) a. wenn Paul mir ihn so beschreibt (Lenerz 1993:142)
   if Paul.NOM me.DAT him.ACC this way describes
   ‘if Paul describes him to me this way’

b. Wer kann mir ihn ausleihen?
   who.NOM can me.DAT him.ACC lend
   ‘Who can lend it to me?’ (http://www.citforum.de/showthread.php?t=78352)

c. Wenn sie das so wollen, sollen sie mir es sagen, und dann kann ich das gut akzeptieren
   if they.NOM it.ACC thus want should they.NOM me.DAT it.ACC say and then can I it.NOM well accept
   ‘If they want it this way, they should say it to me and then I can accept it fine.’

3.4 Summary

In this chapter I have argued that German, a language with inherent dative Case and asymmetric theme passivization has two types of applied arguments: raising and thematic. The raising/thematic applicative analysis shows that the two types of applicatives have different underlying but the same surface position in German.

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70 Sternefeld and Featherston (2003) and Featherston and Sternefeld (2003) also report on a corpus study where they found many examples with pronouns in <IO, DO> order.
In this chapter I have also discussed the base order of objects in German DOCs, and have introduced compelling evidence from stranding and split topicalization data to support the view that German applied arguments are merged higher than direct objects. The base order <IO, DO> in German applicative constructions is in accord with the crosslinguistic generalization about the order of objects in DOCs and exactly what is predicted by the raising/thematic applicative hypothesis.

Overall the raising/thematic applicative hypothesis accounts for the German data in an economical way (without positing an extra little *applP*, as in Citko 2011), and without having to violate the universal base order of objects, IO>DO, to account for the passivization facts (cf. Anagnostopoulou 2003 and Doggett 2004, who assume DO>IO as underlying order).

In the next chapter I will thoroughly discuss and account for a set of challenging data from Greek, thus closing the discussion on the classification of applicative constructions based on their passivization properties.
CHAPTER 4
GREEK DOUBLE OBJECT CONSTRUCTIONS

4.1 Introduction

Greek, like German, has a variety of double object constructions (DOCs), as illustrated in (1). The focus of this chapter is DOCs with a genitive71/accusative indirect object (IO) and an accusative direct object (DO), as in (1a-d). I argue that Greek recipient (1a) and benefactive/malefactive (1b-c) DOCs show a classical contrast between thematic and raising applicative constructions with a non-overt applicative head. I show how both constructions can be accounted for by positing a single position for ApplP. Syntactic and semantic differences between the constructions result from whether the applicative head introduces an argument or not. Furthermore, I argue that the difference between the recipient double accusative construction in (1a) and the recipient genitive DOC in (1d) is due to differences in how the recipient IO is syntactically licensed.

(1) a. O Nikos dhidhakse ti Maria Italika  
    the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC  
    ‘Nick taught Mary Italian.’

b. O Nikos anixe tis Marias tin porta  
    the.NOM Nick.NOM opened.3SG the.GEN Mary.GEN the.ACC door.ACC  
    ‘Nick opened the door for Mary.’

71 Standard Greek has lost the morphological distinction between genitive and dative case and has generalized the use of genitive.
c. O Nikos estise tis Marias mia farsa\textsuperscript{72} \textit{GEN, ACC}

The.NOM Nick.NOM set.3SG the.GEN Mary.GEN a.ACC prank.ACC

‘Nick set a prank on Mary.’

d. O Nikos edhose tis Marias ena vivlio \textit{GEN, ACC}

the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN a.ACC book.ACC

‘Nick gave Mary a book.’

e. O Nikos alipse to psari ladhi \textit{ACC, ACC}

the.NOM Nick.NOM spread.3SG the.ACC fish.ACC oil.ACC

‘Nick smeared the fish with oil.’

Genitive and accusative IOs in Greek alternate with PPs.\textsuperscript{73} In (2a) the recipient is the object of the preposition \textit{se} ‘to’ and the theme bears accusative case, while in (2b-c) the beneficiary surfaces as the complement either of the preposition \textit{se} ‘to’ or the preposition \textit{ya} ‘for’ respectively. In (2d) the maleficiary is realized as the complement of \textit{se} ‘to’, while in (2e) it is the complement of the complex preposition \textit{se/is varos} ‘against’.\textsuperscript{74}

\textsuperscript{72}This example is inspired by a similar example in Michelioudakis and Sitaridou (2008).

\textsuperscript{73}Interestingly, in German DOCs with verbs that only take possessor goals but not locational goals, possessors do not alternate with PPs (compare examples 1 and 2 below).

(1) a. Jan hat Maria ein Buch gegeben

Jan.NOM has Mary.DAT a.ACC book.ACC given

‘Jan gave Mary a book.’

b. *Jan hat ein Buch an Maria gegeben

Jan.NOM has a.ACC book.ACC to Mary.ACC given

‘Jan gave a book to Mary.’

(2) a. Jan hat Maria ein Buch gesendet

Jan.NOM has Mary.DAT a.ACC book.ACC sent

‘Jan sent Mary a book.’

b. Jan hat ein Buch an Maria gesendet

Jan.NOM has a.ACC book.ACC to Mary.ACC sent

‘Jan sent a book to Mary.’

c. Jan hat ein Buch nach Berlin gesendet

Jan.NOM has a.ACC book.ACC to Berlin.DAT sent

‘Jan sent a book to Berlin.’

\textsuperscript{74}\textit{Is/se varos} ‘against’ is a fixed expression consisting of the preposition \textit{is/se} ‘to’ and \textit{varos} ‘burdain’. \textit{Is} ‘to’ is the Ancient Greek equivalent of the Modern Greek preposition \textit{se} ‘to’.

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(2) a. O Nikos edhose ena vivlio sti Maria
    the.NOM Nick.NOM gave.3SG a.ACC book.ACC to:the.ACC Mary.ACC
    ‘Nick gave a book to Mary.’
b. O Nikos anixe sti Maria tin porta
    the.NOM Nick.NOM opened.3SG to:the.ACC Mary.ACC the.ACC door.ACC
    ‘Nick opened the door for Mary.’
c. O Nikos anixe tin porta ya ti Maria
    the.NOM Nick.NOM opened.3SG the.ACC door.ACC for the.ACC Mary.ACC
    ‘Nick opened the door for Mary.’
d. O Nikos estise sti Maria mia farsa
    the.NOM Nick.NOM set to:the.ACC Mary.ACC a.ACC prank.ACC
    ‘Nick set a prank on Mary.’
e. O Nikos estise mia farsa se varos tis Marias
    the.NOM Nick.NOM set a.ACC prank.ACC against the.GEN Mary.GEN
    ‘Nick set a prank on Mary.’

Accusative recipients alternate with se-PPs but also with genitive DPs (Anagnostopoulou 2001, Cooper and Georgala to appear).75

(3) a. O Nikos dhidhakse ti Maria Italika
    the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC
    b. O Nikos dhidhakse sti Maria Italika
    the.NOM Nick.NOM taught.3SG to:the.ACC Mary.ACC Italian.ACC

75 Compare to German, where accusative recipients may also appear bearing dative case.
I argue that regardless of their category, DP or se-PP, recipients/possessors are generated in [Spec, VP] and may or may not raise to [Spec, ApplP], while beneficiaries and maleficiaries originate in [Spec, ApplP].

Section 4.2 presents a of genitive and accusative extra-object constructions in Greek. In Section 4.3 I show how the raising/thematic applicative hypothesis applies to Greek. I also argue that prepositional ditransitive constructions in Greek (2a) share the same structure with recipient genitive DOCs, and provide evidence from the placement of depictives and other data in support of se-PP>DP_{ACC} as base order. In Section 4.4 I present the results of two “magnitude estimation” experiments (Bard et al. 1996) I did to establish the reliability of the data on which the analysis in Section 4.2, as well as Anagnostopoulou’s (2003, 2005) analysis build. Experimental investigation of these data is motivated by the fact that they have been recently contested in the literature. In Section 4.5 I propose that ethical datives should not be analyzed as applicatives, thus showing that ethical datives are not counterexamples to a single-applicative-head analysis for capturing the typology of genitive extra-arguments in Greek. Section 4.6 summarizes.

4.2 A Typology of Greek Extra Arguments

Standard Greek has two different types of applied arguments: high (thematic) and low (raising). Both types of applicatives may surface as PPs, but they are differently Case-marked when they are realized as DPs/clitics: High applied arguments (bene-/maleficiaries) bear genitive Case, while low applied arguments (recipients) bear accusative Case. I do not analyze genitive recipients as applicatives, as it will be explicitly shown below.
Genitive is an inherent Case in Greek. Thus, Greek genitive arguments are never subjects in passive constructions, as the examples in (4) illustrate.

(4) a. *[I Maria]_{RCP} dhothike ena vivlio apo to Niko
    the.NOM Mary.NOM gave.NON-ACT.3SG a.ACC book.ACC by the.ACC Nick.ACC
    ‘Mary was given a book by Nick.’

b. *[I Maria]_{BNF} anihtike tin porta apo to Niko
    the.NOM Mary.NOM opened.NON-ACT.3SG the.ACC door.ACC by the.ACC Nick.ACC

 c. *[I Maria]_{MLF} stithike mia farsa apo to Niko
    the.NOM Mary.NOM set.NON-ACT.3SG a.ACC prank.ACC by the.ACC Nick.ACC

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76 Anagnostopoulou (2003) argues that genitive in Greek possesses properties of both inherent and structural Case. Based on the criterion of passivizability, genitive is inherent across the board (1a) (cf. Warburton 1977, Lascaratou 1984, Tsimpli 1989, Catsimali 1990, Philippaki-Warburton 1992, Theophanopoulou-Kontou 2002, Bowers and Georgala 2007, Georgiafentis and Lascaratou 2007, Georgala and Whitman 2009). However, if clitic doubling is another diagnostic for distinguishing inherent from structural Case, genitive goals should be assigned structural Case, according to Anagnostopoulou (2003). Example (1b) contrasts with example (2) below, where a monotransitive verb takes a complement in genitive, which can neither undergo passivization (2b) nor clitic doubling (2c). The genitive complement in (2) bears inherent Case, while the genitive of the goal in (1) is a hybrid, on Anagnostopoulou’s analysis.

(1) a. *O Petros dhothike ena vivlio
    the.NOM Peter.NOM gave.NON-ACT.3SG a.ACC book.ACC
    ‘Peter was given a book.’

b. I Maria tu edhose tu Petru ena vivlio
    the.NOM Mary.NOM CL.3SG.MASC.GEN gave.3SG the.GEN Peter.GEN a.ACC book.ACC
    ‘Mary gave Peter a book.’

(2) a. I Maria iperischise tu Petru
    the.NOM Mary.NOM prevailed.3SG the.GEN Peter.GEN
    ‘Mary prevailed over Peter.’

b. *O Petros iperischistike apo ti Maria
    the.NOM Peter.NOM prevailed.NON-ACT.3SG by the.ACC Mary.ACC
    ‘Peter was prevailed over by Mary.’

c. *I Maria tu iperischise tu Petru
    the.NOM Mary.NOM CL.3SG.MASC.GEN prevailed.3SG the.GEN Peter.GEN
    ‘Mary prevailed over Peter.’

However, the distinction Anagnostopoulou makes with respect to clitic doubling may simply be based on the difference between genitive as direct complement (DOC) and genitive as a complement of a null P (monotransitive case).
As noted by Anagnostopoulou (2003), Greek permits both DP<sub>GEN</sub>→DP<sub>ACC</sub> and DP<sub>ACC</sub>→DP<sub>GEN</sub> orders. Examples (5) and (6) illustrate this fact for recipients and beneficiaries respectively. The two arguments in the double accusative construction may also appear in either order, as shown in (7). I account for these orders later in the chapter.

(5) Recipient genitive DOC

a. \textit{IO}_{\text{GEN}} > \textit{DO}_{\text{ACC}}

\begin{center}
\begin{tabular}{ll}
O & Nikos edhose tis Marias ena vivlio \\
the.NOM & Nick.NOM gave.3SG the.GEN Mary.GEN a.ACC book.ACC \\
\end{tabular}
\end{center}

‘Nick gave Mary a book.’

b. \textit{DO}_{\text{ACC}} > \textit{IO}_{\text{GEN}}

\begin{center}
\begin{tabular}{ll}
O & Nikos edhose ena vivlio tis Marias \\
the.NOM & Nick.NOM gave.3SG a.ACC book.ACC the.GEN Mary.GEN \\
\end{tabular}
\end{center}

‘Nick gave Mary a book.’

(6) Benefactive DOC

a. \textit{IO}_{\text{GEN}} > \textit{DO}_{\text{ACC}}

\begin{center}
\begin{tabular}{ll}
O & Nikos fitepse tis Marias luludhia ston kipo \\
the.NOM & Nick.NOM planted.3SG the.GEN Mary.GEN flowers.ACC in:the.ACC garden.ACC \\
\end{tabular}
\end{center}

‘Nick planed flowers for Mary in the garden.’

b. \textit{DO}_{\text{ACC}} > \textit{IO}_{\text{GEN}}

\begin{center}
\begin{tabular}{ll}
O & Nikos fitepse luludhia tis Marias ston kipo \\
the.NOM & Nick.NOM planted.3SG flowers.ACC the.GEN Mary.GEN in:the.ACC garden.ACC \\
\end{tabular}
\end{center}

‘Nick planted flowers for Mary in the garden.’
(7) *Recipient double accusative construction*

a. $IO_{ACC} > DO_{ACC}$

O Nikos dhidhakse ti Maria Italika the.NOM Nick.NOM taught.3SG the.ACC Mary.ACC Italian.ACC

‘Nick taught Mary Italian.’

b. $DO_{ACC} > IO_{ACC}$

O Nikos dhidhakse Italika ti Maria the.NOM Nick.NOM taught.3SG Italian.ACC the.ACC Mary.ACC

‘Nick taught Mary Italian.’

In the last section of this chapter I discuss a class of non-argument genitives, the so-called “ethical datives”, which I propose should not be analyzed as applicatives. In the remainder of this section, I argue that Greek has raising and thematic applicative constructions.

4.2.1 Genitive/Accusative DOCs

4.2.1.1 Genitive Bene-/Malefactive DOC

Based on Pylkkänen’s applicative diagnostics, the genitive bene-/malefactive construction is a high applicative construction. In Greek, genitive bene-/maleficiaries may appear with both unergatives78 (e.g., traghudhao ‘sing’, horevo ‘dance’, hamoghelao ‘smile’), as shown in example (8), and statives79 (e.g., kratao ‘hold/keep’, stino ‘set/prepare’), as illustrated in

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77 Parts of Sections 4.2.1 and 4.2.2 appeared in Georgala and Whitman 2009 for the first time.
78 Beneficiaries do not occur with manner of motion verbs, such as treho ‘run’ and perpato ‘walk’.
79 Note that in Greek beneficiaries do not appear with all types of stative predicates. While beneficiaries occur with non-directional activity verbs, such as kratao ‘hold/keep’, they are not allowed with psychological predicates, such as aghapo ‘love’.

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examples (9a-b).\(^{80}\) In (9b), which is an example of a malefactive DOC with a stative predicate, stino ‘set’, it is not possible that the agent’s setting up of a prank results in a possessive relation between the IO tis Marias ‘Mary’ and the theme mia farsa ‘a prank’. Maria in this example is thus a pure malefactive argument.

(8) High applicative (benefactive) with unergatives

a. Tha traghudhisis tu Niku ya ta yenethlia tu?

\[\text{FUT sing.2SG the.\text{GEN Nick.GEN for the.\text{ACC birthday.\text{ACC POSS.3SG.MASC} }}\]

‘Will you sing for Nick for his birthday?’

b. I Maria hamoghelase tu Niku sto parti

\[\text{the.NOM Mary.NOM smiled.3SG the.\text{GEN Nick.GEN at:the.\text{ACC party} }}\]

‘Mary smiled at Nick at the party.’

(9) High applicative with statives

a. Benefactive

Borite na kratisete tis Marias afto to forema mehri avrio?

\[\text{can.2PL to keep.2PL the.\text{GEN Mary.GEN this.\text{ACC dress.\text{ACC until tomorrow} \text{ }} }}\]

‘Can you keep this dress for Mary until tomorrow?’

b. Malefactive

O Nikos estise tis Marias farsa

\[\text{the.NOM Nick.NOM set.3SG the.\text{GEN Mary.GEN prank.\text{ACC} }}\]

‘Nick set a prank on Mary.’

---

\(^{80}\) Kupula (2008) and Kupula (2011) overlook the unergative and stative predicates cited above, thus arguing that Greek, like English, only has low applicative constructions.
4.2.1.2 Accusative Recipient DOC

Accusative recipient goals appear with a small class of verbs, consisting of the “transfer of message/knowledge verb” *dhidhasko* ‘teach’, and the following “verbs of giving”: *dhanizo* ‘lend’, *plirono* ‘pay’, *kseplirono* ‘repay’, *serviro* ‘serve’, *taizo* ‘feed’, *potizo* ‘water’, and *kernao* ‘offer a treat’. Of these verbs, *taizo* ‘feed’, *potizo* ‘water’, and *kernao* ‘offer a treat’ are non-alternating double object verbs, i.e., they only take part in the double accusative construction (Anagnostopoulou 2003).

Although the double accusative construction has the semantics of a low applicative construction (transfer of possession between the IO and the DO), and thus semantically patterns together with the genitive DOC in Greek, as it will be shown in Section 4.2.1.3, the two constructions differ syntactically with respect to passivization and nominalization. In particular, in contrast to genitive recipients, accusative recipients get both passivized and nominalized (Anagnostopoulou 2001), as examples (10) and (11) illustrate respectively.

(10) **Passivization of accusative recipient**

```
I Maria dhidhahtike Italika apo to Niko.
the.NOM Mary.NOM taught.NON-ACT.3SG Italian.ACC by the.ACC Nick.ACC

‘Mary was taught Italian by Nick.’
```

(11) **Nominalization of accusative recipient**

```
Afti i methodhos hrisimopiite sti dhidhaskalia enilikon
this.NOM the.NOM method.NOM used.NON-ACT.3SG to:the.ACC teaching.ACC adults.GEN

‘This method is used for adult teaching.’
```
The syntactic structure I will propose in Section 4.3 for genitive and accusative recipient DOCs captures the semantics shared by both structures in that recipient genitive and accusative DPs are merged in the same position, namely [Spec, VP].

4.2.1.3 Inherent Genitive Recipient DOC

The Greek recipient/possessor DOC pattern in (1d), repeated below, is superficially similar to the bene-/malefactive DOC pattern (9a-b); the IO bears genitive case, the DO accusative. Closer inspection, however, shows that the patterns are distinct. First, patterns like (1d) imply transfer of possession, while the bene-/malefactive DOC does not (9a-b). For example, in (9a) above the event of keeping the dress (instead of selling it) does not result in the dress ending up in Mary’s possession.

(1) d. O Nikos edhose tis Marias ena vivlio

the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN a.ACC book.ACC

‘Nick gave Mary a book.’

Second, idiom facts do not support a high applicative analysis of the recipient DOC. The standard account of the contrast in (12) (Harley 2003, among others) is that the DOC in (12b) implies transfer of possession, and is thus infelicitous when the idiom does not (12a).

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81 Cf. Bowers and Georgala (2007) and Kupula (2011), who also propose that genitive and accusative recipients are merged in the same position (specifier of low ApplP in Kupula’s analysis and specifier of high ApplP in Bowers and Georgala’s analysis). These accounts contrast with Anagnostopoulou 2001, in which genitive and accusative recipients are merged in different positions: specifier of high ApplP and specifier of VP respectively. Although Anagnostopoulou’s approach captures the syntactic differences between the two constructions, it violates UTAH.

82 Example (1d) has no benefactive reading.
(12) a. Estile to Niko sto dhiaolo sent.3SG the.ACC Nick.ACC to:the.ACC devil.ACC

‘He/she sent Nick to the devil.’

b. *Estile tou dhiaolu to Niko sent.3SG the.GEN devil.GEN the.ACC Nick.ACC

‘He/she sent the devil Nick.’

Third, although theme passives in DOCs are ungrammatical in Greek, when the IO is expressed as a clitic, theme passivization of recipient DOCs is rescued (Markantonatou 1994, Anagnostopoulou 2003) (13),\(^3\) while theme passivization of benefactive DOCs is beyond repair (Anagnostopoulou 2003, 2005) (14).

(13) *Passive: Recipient DOC*

a. To vivlio tis haristike (Anagnostopoulou 2005:77)

the.NOM book.NOM CL.3SG.FEM.GEN awarded.NON-ACT.3SG

(tis Marias)

the.GEN Mary.GEN

‘The book was awarded to her (Mary).’

---

\(^3\) Similarly to Greek genitive DOCs, locative applicative constructions in Kinyarwanda allow theme passivization only if the applied object is realized as an object marker on the verb (1a), but not if it is a full DP adjacent to the verb (1b) (Zeller and Ngoboka 2006).

(1) a. Amabuye y-a-yi-tee-w-e-ho n’umujuura stones SP-PST-OM-throw-PASS-ASP-APPL by thief

‘The stones were thrown on it by the thief.’

b. *Amabuye y-a-tee-w-e-ho inzu n’umujuura stones SP-PST-throw-PASS-ASP-APPL house by thief

‘The stones were thrown on the house by the thief.’
b. *To vivlio haristike tis Marias (Anagnostopoulou 2005:65)
   the.NOM book.NOM awarded.NON-ACT.3SG the.GEN Mary.GEN
   by the.ACC Peter.ACC
   apo ton Petro
   ‘The book was awarded to Mary by Peter.’

(14) Passive: Benefactive DOC

a. *O kafes tis ftiahtike (Anagnostopoulou 2005:78)
   the.NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG
   (tis Marias) apo ton Petro
   the.GEN Mary.GEN by the.ACC Peter.ACC
   ‘The coffee was made for her (Mary) by Peter.’

b. *O kafes ftiahtike tis Marias (Anagnostopoulou 2005:77)
   the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN
   (apo ton Petro)
   ‘The coffee was made for Mary (by Peter).’

Although one would expect beneficiaries and maleficiaries to behave alike with respect to theme passivization, based on the data in (15) Anagnostopoulou (2005) argues that maleficiaries pattern together with recipients rather than beneficiaries.

(15) a. Theme passivization with beneficiaries (Anagnostopoulou 2005:78)

   *To fayito tis mayireftike (tis Marias)
   the.NOM food.NOM CL.3SG.FEM.GEN cooked.NON-ACT.3SG the.GEN Mary.GEN
   apo ton Petro
   by the.ACC Peter.ACC
   ‘*The meal was cooked Mary by Peter.’
b. Theme passivization with maleficiaries

(Anagnostopoulou 2005:78)

To fayito dhén *(tis) mayireftike tis Marias
the.NOM food.NOM NEG CL.3SG.FEM.GEN cooked.NON-ACT.3SG the.GEN Mary.GEN
kala (*apo ton Peter)
well by the.ACC Peter.ACC

‘The meal was not cooked well by Mary and Mary was unhappy about it.’

Crucially, Maria in (15b) is interpreted as being simultaneously the agent and the person that is negatively affected by the cooking event (Anagnostopoulou 2005). The passivization asymmetry in (15) leads Anagnostopoulou (2005) to argue that the single applicative head, originally proposed in Anagnostopoulou 2003 to account for applicatives crosslinguistically, should be split into two types: (i) vAPPL1 which introduces possessor- and benefactive-recipients, and (ii) vAPPL2 which introduces maleficiaries.

However, the alleged theme-passive with a maleficiary in (15b) is in fact a middle construction, based on three tests (the by-itself test, the cause-PP test, and the agentive by-phrase test), proposed by Alexiadou and Doron (2007) to distinguish between middle and passive constructions in Greek, among other languages.\(^4\) The examples in (16) show that beneficiaries and maleficiaries pattern together in passive and middle. In particular, theme passivization is ungrammatical (16c), while a middle with a cliticized bene-/maleficiary (16a-b) is fine.

(16) a. By-itself test

?Afto to kreas (dhe) tha su psithi orea apo mono tu
this.NOM the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well by itself

‘This type of meat will (not) roast well by itself and you will be (un)happy about it.’

\(^4\) According to Alexiadou and Doron (2007), Modern Greek has a two-way voice distinction, active and non-active. Non-active voice marking subsumes anticausatives, reflexives, reciprocals, dispositional middles, medio-passives, and passives.
b. **Cause-PP**

```
?Afto to kreas (dhe) tha su psithi orea me
  this.NOM the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well with
  ton aera
  the.ACC air.ACC

‘This type of meat will (not) convection roast well and you will be unhappy about it.’
```

c. **Agentive by-phrase**

```
*To kreas (dhe) tha su psithi orea apo to Niko
  the.NOM meat.NOM NEG FUT CL.2SG.GEN roast.NON-ACT.3SG well by the.ACC Nick.ACC
```

To account for the data in (16), in Section 4.3 I propose that beneficiaries and maleficiaries are both thematic applicatives, merged in [Spec, ApplP]. Since beneficiaries and maleficiaries behave alike with respect to theme passive and middle constructions, there is no need to postulate a special head for each one of them. The type of affectedness of the thematic applicative head, i.e., benefactive or malefactive, is underspecified, and it is the idiosyncratic meaning of the lexical verb and pragmatics that determine whether the applied argument is a beneficiary or a maleficiary. Moreover, although Anagnostopoulou’s motivation for having maleficiaries and beneficiaries being merged in two different positions is basically their distinct behavior in passive, the same motivation does not explain why in her account beneficiaries and recipients are merged in the same position. Recall that beneficiaries and genitive recipients do not pattern together with respect to passivization (cf. examples 13-14).

Now, observe that theme passivization with IOs as standalone DPs is ungrammatical for all types of genitive DOCs, as (13b), (14b) and (15b) illustrate. However, for some native speakers the contrast in (13) does not exist (Georgiafentis and Lascaratou 2007, Kupula 2011), as shown by the judgments reported by Georgiafentis and Lascaratou (2007) in example (17).
(17) To arthro mas (Georgiafentis and Lascaratou 2007:45)

the.NOM paper.NOM POSS.1PL
dhothike / stalthike / tahidhromithike tis Irinis
gave.NON-ACT.3SG sent.NON-ACT.3SG mailed.NON-ACT.3SG the.GEN Irene.GEN

‘Our paper was given/sent/posted to Irene.’

As will be discussed in more detail in subsequent sections, the contrast in (13) has played a crucial role in proposals of locality theory of A-movement and the syntax of ditransitive constructions (cf. Anagnostopoulou 2003 and subsequent work). The existence of judgments such as those in (17), however, make it necessary to confirm the empirical basis of the assumptions of these proposals. In order to shed light on this outstanding issue, I conducted a magnitude estimation study of DOC passivization in Greek. In Section 4.4 I describe the study and discuss its results, which confirm Anagnostopoulou’s (2003, 2005) data.

4.2.2 Prepositional Constructions

4.2.2.1 Recipient Prepositional Constructions

In Greek recipient prepositional constructions (PCs) the recipient goal is the complement of the preposition se\(^\text{85}\) ‘to’ and the theme bears accusative case, as illustrated in examples (18a-b). The order of the PP and the DO is not fixed (18a-b).

\(^{85}\text{Se obligatorily incorporates an immediately following definite article (e.g. } se + to > sto). Se is also used as a locative (locational and directional) preposition, e.g.,\)

(1) a. O Nikos piye sti Romi
    the.NOM Nick.NOM went.3SG to.the.ACC Rome.ACC
    ‘Nick went to Rome.’

b. O Nikos meni sti Romi
    the.NOM Nick.NOM lives in.the.ACC Rome.ACC
    ‘Nick lives in Rome.’

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(18) a. O Nikos edhose ena vivlio sti Maria ACC, PP
    the.NOM Nick.NOM gave.3SG a.ACC book.ACC to:the.ACC Mary.ACC
b. O Nikos edhose sti Maria ena vivlio PP, ACC
    the.NOM Nick.NOM gave.3SG to:the.ACC Mary.ACC a.ACC book.ACC
    ‘Nick gave a book to Mary.’

Theme passivization (19) and nominalization\textsuperscript{86} (20) of the recipient PC are felicitous (Alexiadou 2001, Anagnostopoulou 2003). Note that nominalization of the recipient DOC is ungrammatical (21).

(19) \textit{Passivization of the recipient PC}
    Ena vivlio dhothike sti Maria apo to Niko
    a.NOM book.NOM gave.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC
    ‘A book was given to Mary by Nick.’

(20) \textit{Nominalization of the recipient PC}
    I anathesi mias efkolis askisis sti Maria
    the.NOM assignment.NOM an.GEN easy.GEN exercise.GEN to:the.ACC Mary.ACC
    ‘The assignment of an easy exercise to Mary.’

(21) \textit{Nominalization of the recipient DOC}
    *I anathesi mias efkolis askisis tis Marias
    the.NOM assignment.NOM an.GEN easy.GEN exercise.GEN the.GEN Mary.GEN
    ‘The assignment of an easy exercise to Mary.’

\textsuperscript{86} I follow Anagnostopoulou (2003, 2005) in using nominalization, like passivization, as a test to distinguish between the DOC and the PC. Nominalization has been used as a test to distinguish between DOCs and PCs in other languages too (cf. Kayne 1984, Pesetsky 1995, Marantz 1997, Beck and Johnson 2004 on English).
Genitive recipient DOCs and PCs in Greek typically have the same meaning, as indicated by the behavior of idioms. It is generally assumed that fixed pieces of an idiom must form an underlying constituent syntactically. Based on this assumption the following predictions are made (Richards 2001, Harley 2003, among others):

(i) An idiom with a fixed theme should only appear in the DOC.

(22) a. Nick gave Mary [a headache]\text{\textunderscore THEME}
   
b. *Nick gave a headache to Mary

(ii) An idiom with a fixed goal should only appear in the PC.

(23) a. Nick sent Mary [to the devil]\text{GOAL}
   
b. *Nick sent the devil Mary.

Contrary to the prediction in (i), fixed theme idioms are found in PCs both in English (24a) (Rappaport Hovav and Levin 2008) and Greek (24b) (Georgala and Whitman 2009). As argued by Rappaport Hovav and Levin (2008), fixed theme idioms are found in both variants, because they express a change of possession. Their meaning involves a potential recipient goal that has two possible realizations, like any other potential recipient goal. The syntactic structure I will propose in Section 4.3 predicts this by base-generating recipient goal DPs and PPs in the same position.

(24) a. Police lend an ear to the victims… (COBUILD, as cited by Rappoport Hovav and Levin 2008:153)
b. O Nikos edhose tis Marias / sti Maria
the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN to:the.ACC Mary.ACC
prasino fos
green.ACC light.ACC
‘Nick gave the green light to Mary.’

As in English, fixed goal idioms in Greek are only found in PCs. This is because fixed goal idioms involve goals and not recipients (Rappaport Hovav and Levin 2008). Unlike recipients, locative goals can be realized only as se-PPs in Greek, as the contrast in (25) illustrates.

(25) a. O Nikos estile ti Maria sto dhiaolo
the.NOM Nick.NOM sent.3SG the.ACC Mary.ACC to:the.ACC devil.ACC
b. *O Nikos estile ti Maria tu dhiaolu
the.NOM Nick.NOM sent.3SG the.ACC Mary.ACC the.GEN devil.GEN
‘Nick sent Mary to the devil.’

In the idiom in (26) a recipient goal co-occurs with a locative goal. The fixed theme part of the idiom is ta paputsia ‘the shoes’, while the fixed goal part is sto heri ‘to the hand’. As expected, the recipient, Nick, is found in both variants, while the locative goal is only realized as a PP.

(26) I Maria edhose [ [tu Niku] / [sto Niko] ]
the.NOM Mary.NOM gave.3SG the.GEN Nick.GEN to:the.ACC Nick.ACC
ta paputsia [[sto heri] / *[tu heriu]]
the.ACC shoes.ACC to:the.ACC hand.ACC the.GEN hand.GEN
‘Mary kicked Nick out.’
Another indication in support of the view that recipient DOCs and PCs may express the same meaning in Greek comes from Anagnostopoulou’s (2005) observation that Oehrle’s generalization does not apply to Greek. As a reminder, Oehrle’s (1976) generalization has been used to show that the DOC and the PC in English have distinct underlying structure. So, patterns with *give*, such as (27a), occur in the DOC but not in the PC (27b) in English.

    b. *Interviewing Nixon gave a book to Mailer.

Examples such as (28) show that Oehrle’s generalization does not hold with *se*-PPs in Greek.

(28) a. O ghamos harise sti Maria (Anagnostopoulou 2005:86)
     the.NOM marriage.NOM gave.3SG to.the.ACC Mary.ACC
     statherotita
     stability.ACC

    b. O ghamos tis harise tis Marias statherotita
       the.NOM marriage.NOM CL.3SG.FEM.GEN gave.3SG the.GEN Mary.GEN stability.ACC

   ‘Marriage gave Mary stability.’

4.2.2.2 Bene-/Malefactive Prepositional Constructions

As Anagnostopoulou (2005) observes, beneficiaries which are understood as intended recipients alternate with *se*-PPs and *ya* ‘for’ PPs, as examples (29a) and (29b) illustrate respectively.
(29) a. Benefactive se-PP construction

O Nikos aghorase to aftokinito sti Maria
the.NOM Nick.NOM bought.3SG the.ACC car.ACC to:the.ACC Mary.ACC

‘Nick bought the car for Mary.’

b. Benefactive ya-PP construction

O Nikos aghorase to aftokinito ya ti Maria
the.NOM Nick.NOM bought.3SG the.ACC coffee.ACC for:the.ACC Mary.ACC

‘Nick bought the car for Mary.’

Unlike ya-PPs, benefactive genitive DPs/clitics and se-PPs pattern together, based on the results of the “double object-hood” tests in (30) (Anagnostopoulou 2005). This leads Anagnostopoulou (2005) to propose that both nominal and se-PP recipient-beneficiaries are merged in the same position, i.e., the specifier of vAPPL1, which coincides with Pylkkänen’s high applicative position. I agree with Anagnostopoulou’s proposal to base-generate se-PPs and genitive beneficiaries in the same position, and elaborate on their syntactic analysis in Section 4.3.

(30) Diagnostic tests for the “double object-hood” of beneficiaries

a. Recipient interpretation: Based on Kayne’s (1975) observation about French, Anagnostopoulou (2005) notices a difference between the interpretation of ya-PPs on the one hand, and se-PP and nominal beneficiaries on the other: se-PP and genitive beneficiaries have a recipient interpretation, while ya-PPs are not constrained to this meaning. Examples (i-iii) below illustrate this difference.

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87 Bowers and Georgala (2007) also propose that se-PPs and genitive DPs are merged in the same position, [Spec, ApplP], in benefactive constructions.
(i) Eftiaxa tu papu koliva  
made.1SG the.GEN grandfather.GEN koliva.ACC

(ii) Eftiaxa koliva ston papu  
made.1SG koliva.ACC to:the.ACC grandfather.ACC

‘I made grandfather koliva (boiled wheat made in the memory of a dead person).’

(iii) Eftiaxa koliva ya ton papu  
made.1SG koliva.ACC for the.ACC grandfather.ACC

‘I made koliva for grandfather.’

While examples (i-ii) above imply that the grandfather actually receives koliva, example (iii) does not show this restriction. In particular, (i) and (ii) would be used only in the case the grandfather is alive and likes having koliva for dessert. In example (iii), on the other hand, it may be the case that the beneficiary, namely the grandfather is dead and koliva is made in his memory.

Furthermore, following Beck and Johnson (2004) on English,88 Anagnostopoulou (2005) notes that unlike nominal and se-PP beneficiaries, ya-PPs have a wider range of thematic roles. In particular, ya-PPs may have also the “instead-of” reading. Hence, while Petros ‘Peter’ in examples (iv-v) can be only understood as the potential recipient of the spinach pie, in example (vi) Peter may be either the potential recipient or the person who baked the spinach pie in place of John.

(iv) O Yanis mayirepse tu Petru  
the.NOM John.NOM cooked.3SG the.GEN Peter.GEN
spanakopita  
spinach:pie.ACC

88 Green (1974) was the first to observe this ambiguity in English.
b. *Predicate restriction*: Se-PP and genitive benefactives appear only with a restricted set of predicates (e.g., verbs of creation and buy-verbs), unlike ya-PPs, which are more flexible (Anagnostopoulou 2005). Hence, while the verb of creation mayirevo ‘cook’ appears in the three-way benefactive alternation (i-iii), the verb diaschizo ‘cross’ only occurs with ya-PP beneficiaries (iv-vi).

(i) O Yanis mayirepse tis Marias (Anagnostopoulou 2005:76)
       the.NOM John.NOM cooked.3SG the.Gen Mary.Gen
       keftedhakia
       meatballs.Acc

(ii) O Yanis mayirepse sti Maria keftedhakia
       the.NOM John.NOM cooked.3SG to:the.Acc Mary.Acc meatballs.Acc
       ‘John cooked Mary meatballs.’

(iii) O Yanis mayirepse keftedhakia ya ti Maria
       the.NOM John.NOM cooked.3SG meatballs.Acc for the.Acc Mary.Acc
       ‘John cooked meatballs for Mary.’

(iv) *O Yanis dieschise tis Marias tin erimo
       the.NOM John.NOM crossed.3SG the.Gen Mary.Gen the.Acc desert.Acc

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c. *Passivization:* As with genitive DPs/clitics (i), theme passivization with *se*-PPs is ungrammatical (ii) (Anagnostopoulou 2005). However, this is not the case with *ya*-PPs, as example (iii) illustrates (Anagnostopoulou 2005).

(i) *To aftokinito tis aghorastike apo to Niko*

the.NOM car.NOM CL.3SG.FEM.GEN bought.NON-ACT.3SG by the.ACC Nick.ACC

‘The car was bought for her by Nick.’

(ii) *To aftokinito aghorastike sti Maria apo to Niko*

the.NOM car.NOM bought.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC

(iii) *To aftokinito aghorastike ya ti Maria apo to Niko*

the.NOM car.NOM bought.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Nick.ACC

‘The car was bought for Mary by Nick.’

Similar facts hold also for maleficiaries. As mentioned above, maleficiaries may be the complements either of the simple preposition *se* ‘to’ or the complex preposition *is/se varos* ‘against’. Although theme passivization with the maleficiary being realized either as a genitive DP/clitic (iv) or as the complement of *se* ‘to’ (v) is ungrammatical, theme passivization with *is/se varos* ‘against’ PPs is licit (vi).
d. Nominalization: Like genitive beneficiaries/maleficiaries and unlike \textit{ya}-PPs and \textit{is/se varos} PPs, \textit{se}-PPs are illicit in nominalizations.

\textit{Beneficiaries}

(i) *I aghora tu aftokinitu tis Marias\textsuperscript{89}  
the.NOM purchase.NOM the.GEN car.GEN the.GEN Mary.GEN

(ii) *I aghora tu aftokinitu sti Maria  
the.NOM purchase.NOM the.GEN car.GEN to.the.ACC Mary.ACC

(iii) I aghora tu aftokinitu ya ti Maria  
the.NOM purchase.NOM the.GEN car.GEN for the.ACC Mary.ACC

‘The purchase of the car for Mary.’

\textit{Maleficiaries}

(iv) *To stisimo tis plakas tis Marias  
the.NOM setting.NOM the.GEN prank.GEN the.GEN Mary.GEN

(v) *To stisimo tis plakas sti Maria  
the.NOM setting.NOM the.GEN prank.GEN to.the.ACC Mary.ACC

\textsuperscript{89} Example (26di) can be grammatical only under the reading ‘The purchase of Mary’s car.’
(vi) To stisimo tis plakas is/se varos tis Marias

the.NOM setting.NOM the.GEN prank.GEN against the.GEN Mary.GEN

‘The setting up of a prank on Mary.’

Based on Anagnostopoulou’s semantic and syntactic diagnostics presented above, we have seen that ya-PPs and is/se varos PPs do not pattern together with se-PPs and genitive bene-/maleficiaries. Anagnostopoulou (2005) argues that ya-PPs present conflicting evidence in terms of their phrase structure status, specifically whether they are arguments or adjuncts. In Section 4.3.2.2 I present Anagnostopoulou’s arguments and apply Anagnostopoulou’s tests to is/se varos-PPs to show that they pattern together with ya-PPs.

In this section I have presented syntactic and semantic evidence in support of two different types of genitive extra objects in Greek. In addition, I have shown that in Greek extra arguments may be realized either as DPs bearing genitive or accusative case, or complements of PPs headed by the preposition se ‘to’. In the following section, I propose that accusative/genitive recipients and se-PP recipients are all merged in the same position, namely specifier of VP, but it is only the accusative recipients that raise to [Spec, VP]. I analyze genitive and se-PP bene-/malefactives as thematic applicatives.

4.3 The Syntax of Greek Extra Arguments

In this section I will show that the raising/thematic applicative hypothesis sketched in Chapter 1 accounts for the following facts:

1. The difference between bene-/malefactive and recipient DOCs in Greek.
2. The difference between and recipient genitive and recipient accusative DOCs.
3. The intervention (passive) effects with: (i) recipient genitive/accusative DPs, clitics, and PPs, and (ii) bene-/malefactive DPs, clitics, and PPs.
4. Word order.
5. Idioms.
6. Similarity between genitive DPs and *se*-PPs.

In Section 4.3.1 I analyze accusative possessor/recipients as raising applicatives, and argue that genitive and *se*-PP recipients do not involve raising. In Section 4.3.2 I argue that *se*-PPs and genitive bene-/malefactives are thematic applicatives.

### 4.3.1 VP-internal Extra Arguments

In Section 4.2.1 I presented evidence for distinguishing high and low applicatives in Greek, based on their distinct syntactic and semantic properties. In the first part of this section I account for possessor/recipient (low) applicatives, which I argue raise from the specifier of the lexical VP to the specifier of ApplP. In addition, I show that the difference between genitive and accusative recipient DOCs lies in the lack of raising to [Spec, ApplP] in the former. In Section 4.3.1.1.2, I deal with another type of raising applicatives, the so-called “possessor datives” (bearing genitive case in Greek), which I analyze as DPs, raised from the specifier of the possessed nominal, the DO, to [Spec, ApplP].

#### 4.3.1.1 Raising Applicatives

##### 4.3.1.1.1 Raising from [Spec, VP] to [Spec, ApplP]

In this section I show that the accusative recipient/possessor DOC in Greek is a raising applicative construction (31).
The raising applicative analysis in (31) predicts that accusative IOs c-command DOs. This is indeed the case, based on the results of the Barss and Lasnik (1986) c-command tests in (32-33). Below I present the results of the two most reliable tests for Greek, namely *bound variable anaphora* (32) and *reciprocal binding* (*each... the other construction*) (33) (cf. Anagnostopoulou 2003 for a discussion on the application of the rest of the Barss and Lasnik c-command tests to Greek). As the data in (32) and (33) show, (i) the accusative IO asymmetrically c-commands the accusative DO, and (ii) the order $\text{DP}_{\text{ACC}} > \text{DP}_{\text{ACC}}$ can only be derived by A-bar scrambling of the accusative DO to a position higher than the accusative IO. The movement must have A-bar properties, because the fronted $\text{DO}_{\text{ACC}}$ cannot bind an anaphor inside $\text{IO}_{\text{ACC}}$ (compare 32b to 32c and 33b to 33c).
(32) **Bound variable anaphora**

\[ IO_{ACC} > DO_{ACC} \]  

(Kupula 2008:39)

a. Plirosa ton kathe erghazomeno, to mistho tu,  
\[ \text{paid.1SG the.ACC every.ACC employee.ACC the.ACC salary.ACC POSS.3SG.MASC} \]  
‘I paid every employee his salary.’

b. *Plirosa ton erghazomeno tu, ton kathe mistho,  
\[ \text{paid.1SG the.ACC employee.ACC POSS.3SG.MASC the.ACC every.ACC salary.ACC} \]  
?*‘I paid its employee every salary.’

d. *Plirosa ton kathe mistho ton erghazomeno tu  
\[ \text{paid.1SG the.ACC every.ACC salary.ACC the.GEN employee.GEN POSS.3SG.MASC} \]  
‘I paid every salary (to) its employee.’

(33) **Reciprocal binding**

\[ IO_{ACC} > DO_{ACC} \]  

(Kupula 2008:39)

a. Servira ton enan pelati to proino tu alu  
\[ \text{served.1SG the.ACC one.ACC customer.ACC the.ACC breakfast.ACC the.GEN other.GEN} \]  
‘I served each customer the other’s breakfast.’

b. *Servira ton pelati tu alu to ena proino  
\[ \text{served.1SG the.ACC customer.ACC the.GEN other.GEN the.ACC one.ACC breakfast.ACC} \]  
*‘I served the other’s customer each breakfast.’

c. *Servira to ena proino ton pelati tu alu  
\[ \text{served.1SG the.ACC one.ACC breakfast.ACC the.ACC customer.ACC the.GEN other.GEN} \]  
‘I served each breakfast (to) the other’s customer.’

Greek allows quantifier floating with the exhaustive quantifier oli/oles/ola ‘all’ (34).  

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(34) Servira tus pelates olus proino

served.1SG the.ACC customers.ACC all.ACC breakfast.ACC

‘I served all customers breakfast.’

Based on Fitzpatrick’s (2006) diagnostics, q-floating in Greek is adverbial (see also Tsakali 2008). I assume that adverbial quantifiers need to take scope over their associate, here the IO tus pelates ‘the customers’, and, following Fitzpatrick (2006), that adverbial floating quantifiers restrict their associates to A-movement. The latter is exactly what is required by the raising applicative hypothesis.

Based on this evidence, showing that the IO raises above VP, I assume that Appl bears an EPP feature in Greek. With the additional assumptions that (i) EPP-triggered movement is uncoupled from Agree and may precede Agree, and (ii) Appl bears an uninterpretable Case feature, syntactic licensing of double accusative constructions proceeds as follows (35): DO and V are first merged in V’ and then IO is merged in [Spec, VP]. IO moves to [Spec, ApplP] to check the EPP feature of Appl. Appl, bearing an uninterpretable Case feature enters into an Agree relation with the closest matching DP, the DO, and values its Case feature as accusative. At this point Appl no longer c-commands every member of the chain headed by the IO. Then v is merged with Appl and Agree is established between v and the closest eligible goal in its c-command domain, i.e., the IO in [Spec, ApplP]. v values the Case feature of IO accusative.
This treatment of Greek double accusative constructions predicts goal passivization. Since passive morphology absorbs v’s ability to value Case, T is the closest Probe that can value the Case of IO. As a result IO undergoes passive movement, which is exactly what the data in (36a) show.

(36) **Passivization of accusative recipient**

a. I Maria dhidhahtike ti ghramatiki ton Latinikon
   the.NOM Mary.NOM taught.NON-ACT.3SG the.ACC grammar.ACC the.GEN Latin.GEN

   apo to Niko
   by the.ACC Nick.ACC

   ‘Mary was taught Latin grammar by Nick.’
b. *I _ghramatiki ton Latinikon dhidhahtike ti Maria
   the.NOM grammar.NOM the.GEN Latin.GEN taught.NON-ACT.3SG the.ACC Mary.ACC
   apo to Niko
   by the.ACC Nick.ACC

   ‘Latin grammar was taught to Mary by Nick.’

Note that the syntactic licensing of applicative constructions with accusative recipients is exactly
the same as the syntactic licensing of DOCs in Standard American English and German
applicative constructions with didactic verbs.

4.3.1.1.2 Raising from [Spec, DP_{ACC}] to [Spec, ApplP]: Possessor Datives

Greek, like German and many other languages, has external possession (cf. Payne and Barshi
1999, Landau 1999, Lee-Schoenfeld 2006, Deal 2010, among others), as the examples in (37)
illustrate.

(37) a. Tu eklepsan to portofoli
   _CL.3SG.MASC.GEN stole.3PL the.ACC wallet.ACC
   ‘They stole his wallet and this affected him.’

b. O Nikos espase tis Marias ta yalia kata lathos
   the.NOM Nick.NOM broke.3SG the.GEN Mary.GEN the.ACC glasses.GEN by accident.ACC
   ‘Nick broke Mary’s glasses by accident and this affected her.’

c. O Nikos tis halase ti dhiathesi
   the.NOM Nick.NOM CL.3SG.FEM.GEN ruined.3SG the.ACC mood.ACC
   ‘Nick ruined her mood.’
I follow Lee-Schoenfeld (2006) in base-generating possessor datives in the specifier of the possessee DO and then raising them to [Spec, ApplP]. As in German, D, the head of the possessee DO is a non-Case-licensing (defective) head. Raising of the possessor to [Spec, ApplP] results in assignment of a second theta-role, namely bene-/malefactive, and licensing of inherent genitive Case by Appl.

4.3.1.2 Inherent Genitive DOC

Let us now turn to the genitive recipient DOC. I propose that the genitive recipient is base-generated in the same position as the accusative recipient, namely [Spec, VP]. This predicts that the genitive recipient c-commands the theme. Based on the results of the Barss and Lasnik (1986) c-command tests in (38-39), the genitive IO indeed asymmetrically c-commands the accusative DO. Moreover, the order $DP_{ACC} > DP_{GEN}$ can only be derived by A-bar scrambling of the accusative DO to a position higher than the genitive IO, as exemplified by the contrast between (38b) and (38c), as well as (39b) and (39c) (Anagnostopoulou 2003). This is exactly what was shown above for the double accusative construction.

(38) **Bound variable anaphora**

$DP_{GEN} > DP_{ACC}$  

(Anagnostopoulou 2003:138-139)

a. ?Edhosa tu kathe fititi, tin erghasia tu,
gave.1SG the.GEN every.GEN student.GEN the.ACC paper.ACC POSS.3SG.MASC
‘I gave every student his term paper.

b. ?*Edhosa tu sighrafe a tu, to kathe hiroghrafo,
gave.1SG the.GEN author.GEN POSS.3SG.MASC the.ACC every.ACC manuscript.ACC
?*‘I gave its author every manuscript.’
Unlike in the case of the double accusative construction, though, there is no clear evidence that the genitive IO moves outside the lexical VP.\textsuperscript{90} Example (40) shows that the q\textsuperscript{-}float diagnostic cannot be applied to the genitive recipient DOC.

\textsuperscript{90}Georgala and Whitman (2010) provide examples, where low adverbs such as manner adverbs occur between the IO and the DO, arguing thus that the IO and the DO are not as tight as a unit as Pylkkänen’s low applicative analysis predicts. However, the position of manner adverbs in Greek is not clear (cf. Alexiadou 1997, where manner adverbs are analyzed as complements of V, which obligatorily raise to [Spec, VoiceP], if they are not complex).
(40) *Edhosa ton pelaton olon proino\textsuperscript{91} 
\begin{verbatim}
gave.1SG the.GEN customers.GEN all.GEN breakfast.ACC  
‘I gave all customers breakfast.’
\end{verbatim}

Assuming that Appl is not present in this construction and genitive Case is inherent in Greek,\textsuperscript{92} let us now consider how the IO and DO are licensed in this construction: IO enters the derivation with an interpretable Case feature which is valued at Merge in [Spec, VP]. Following Legate (2008) and Bowers (2010), among others, I assume that inherently Case-marked DPs do not intervene for Agree. Next, $v$ is merged. After the closest DP in the c-command domain of $v$, the inherently Case-marked IO, fails to enter into an Agree relation with it, $v$ continues to search down the tree for a DP with an unvalued Case feature, and finds DO. $v$, then, enters into Agree with DO, and values its Case accusative. This syntactic licensing predicts theme passivization. Yet, with the inherently Case-marked DP staying in situ (contrast to quirky-Case marked IO in German), and crucially being itself a candidate for movement to [Spec, TP] (cf. Nevins and Anand 2003, who argue that fronting of genitive IOs in passive DOCs in Greek is in fact

\textsuperscript{91} Plural genitive IOs are illicit in all types of DOCs, even when no q-float is involved, as the examples (1-2) below show.

\begin{verbatim}
(1) *Edhosa olon ton pelaton proino  
gave.1SG all.GEN the.GEN customers.GEN breakfast.ACC  
‘I gave all customers breakfast.’
\end{verbatim}

\begin{verbatim}
(2) *Eftiaka olon ton pelaton proino  
made.1SG all.GEN the.GEN customers.GEN breakfast.ACC  
‘I made all customers breakfast.’
\end{verbatim}

\begin{verbatim}
(3) Dhiavasa to simioma ton pelaton  
read.1SG the.ACC message.ACC the.GEN customers.GEN  
‘I read the customers’ message.’
\end{verbatim}

\begin{verbatim}
(4) Iperischise ton ipolipon istiotopeon  
prevailed.3SG the.GEN rest.GEN websites.GEN  
‘It prevailed the rest of the websites.’
\end{verbatim}

\textsuperscript{92} The presence of ApplP in the case of possessor raising, discussed in Section 4.3.1.1.2, is due to the theta role and the Case the Appl head assigns. If Appl is present, it bears an EPP feature, which results in raising.

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promotion to subject position), the DO cannot A-move to [Spec, TP] to check the EPP feature of T (cf. example 13b, repeated below). Such movement would violate Shortest Move.

(13b) ?*To vivlio haristike tis Marias (Anagnostopoulou 2005:65)
the.NOM book.NOM awarded.NON-ACT.3SG the.GEN Mary.GEN

apo ton Petro
by the.ACC Peter.ACC

‘The book was awarded to Mary by Peter.’

However, as mentioned earlier in this chapter, theme passivation of the recipient genitive DOC is licit, if the genitive IO is realized as a clitic.

(13) a. To vivlio tis haristike (Anagnostopoulou 2005:77)
the.NOM book.NOM CL.3SG.FEM.GEN awarded.NON-ACT.3SG

(tis Marias)
the.GEN Mary.GEN

‘The book was awarded to her (Mary).’

To account for the grammaticality of (13a), I assume that pronominal clitics are XPs/X0s (i.e., minimal and maximal) (cf. Chomsky 1995:249) and D/DPs are merged in object theta positions and moving in the syntax (see also Kayne 1975, Anagnostopoulou 2003, Matushansky 2006, Mavrogiorgos 2010, Roberts 2010, among others). In its base position, a clitic is [+min, +max], while a moved clitic is a D head (Cardinaletti 1994, Uriagereka 1995, Chomsky 1995, Corver and Delfitto 1999). In (13a) the clitic IO is merged in [Spec, VP]. Following Kayne (1989, 1991, 1994), I assume that clitics are left-adjoined to a head, here T. In cases where the functional head dominates the verb, this straightforwardly yields the order clitic-verb, which is the case with
finite non-imperative clauses in Greek (13a). Movement of the DO to [Spec, TP] does not violate Shortest Move, because neither the trace of the clitic IO in [Spec, VP], nor the moved [+min] clitic, as a head (once the clitic is adjoined to T it is no longer in the search domain of T), count as interveners (41).

(41) Theme passivization: Simple cliticization of IO

In the case of clitic doubling (13a), the clitic and the genitive DP build an X⁰ chain. The clitic moves from [Spec, VP] to T, whereas the DP stays in situ. Following Anagnostopoulou (2003), given that (i) clitic doubling chains are A-chains (Sportiche 1998, Alexiadou and Anagnostopoulou 1997), and (ii) only the head of an A-chain blocks movement (Chomsky 1995, 2000, 2001), the genitive DP in situ is ‘invisible’ to the movement of the theme across it (42).
4.3.1.3 Prepositional Construction

In Section 4.2.2.1, primarily relying on idiom facts, I showed that recipient/possessor DOCs and PCs share the same meaning in Greek. This is predicted by base-generating the recipient genitive/accusative DPs and se-PPs in the same position, namely [Spec, VP] (43) (cf. Bowers and Georgala 2007, Georgiafentis and Lascaratou 2007). Following Larson (2004), I treat locative goals as lowermost V-complements, stranded by the verb that undergoes successive raising through a series of stacked VP “shells” (cf. Miyagawa and Tsujioka 2004, Gracanin-Yuksek 2006, Bowers and Georgala 2007).

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93 Bowers (2010) argues that recipient DPs and PPs are base generated in the same position also in English. Cf. Bruening 2010a for arguments against treating double object and prepositional dative constructions alike in English.
The structure in (43) predicts co-occurrence of recipient/possessor goals and locative goals, which is attested in examples such as (44) and the idiom in (26), repeated from above. The meaning of (44) is that Nick sent a letter to her apartment in Athens, which is a location, with the intention that she will come to possess it.

(44) O Nikos [tis]REC estile ena ghrama [sto dhiamerisma
the.NOM Nick.NOM CL.3SG.FEM.GEN sent.3SG a.ACC letter.ACC to:the.ACC apartment.ACC
tis stin Athina]LOC
POSS.3SG.FEM in:the.ACC Athens.ACC

‘Nick sent her a letter to her apartment in Athens.’

(26) I Maria edhose [ [tu Niku] / [sto Niko]]REC
the.NOM Mary.NOM gave.3SG the.GEN Nick.GEN to:the.ACC Nick.ACC
ta paputsia [[sto heri] / *[tu heriu]]LOC
the.ACC shoes.ACC to:the.ACC hand.ACC the.GEN hand.GEN

‘Mary kicked Nick out.’

However, Anagnostopoulou (2003, 2005), following Marantz (1993), among others,
argues that the applicative head is absent in prepositional goal ditransitives where the goal is introduced in the root level (45). Furthermore, Anagnostopoulou (2005) analyzes both (45a) and (45b) as underlying orders in Greek, based on the observation that the binding facts of the PC are different than those of the DOCs (compare 46 to 33 and 39). In particular, in the PC, whichever argument is leftmost binds the other, as the results of the each... the other c-command test in (46) show.

(45) a. $DP_{ACC} \rightarrow se-PP$  
    
    b. $se-PP \rightarrow DP_{ACC}$  

    (Anagnostopoulou 2005:68)

    \[
    \begin{array}{c}
    \text{vP} \\
    \text{Subj} \quad \text{v'} \\
    \quad \text{v} \quad \text{VP} \\
    \qquad \text{DP}_{\text{THEME}} \quad \text{V'} \\
    \quad \text{V} \quad \text{se-PP}_{\text{GOAL}} \\
    \end{array}
    \quad
    \begin{array}{c}
    \text{vP} \\
    \text{Subj} \quad \text{v'} \\
    \quad \text{v} \quad \text{VP} \\
    \qquad \text{se-PP}_{\text{GOAL}} \quad \text{V'} \\
    \quad \text{V} \quad \text{DP}_{\text{THEME}} \\
    \end{array}
    \]

(46) $DP_{ACC} \rightarrow se-PP$  

    (Anagnostopoulou 2005:68)

a. Estila to ena pedhi sti mitera tu alu
   sent.1SG the.ACC one.ACC child.ACC to:the.ACC mother.ACC the.GEN other.GEN
   ‘I sent each child to the other’s mother.’

b.*Estila to pedhi tis alis sti mia mitera
   sent.1SG the.ACC child.ACC the.GEN other.GEN to:the.ACC one.ACC mother.ACC
   ‘*I sent the other’s child to each mother.’
The binding facts in (46) lead Anagnostopoulou to conclude that both orders, $se$-$PP > DP_{ACC}$ and $DP_{ACC} > se$-$PP$, are base-generated. Yet, note that Condition A effects apply throughout the derivation to DPs in A-positions (Kayne 1981, van Riemsdijk and Williams 1981, Burzio 1986, Belletti and Rizzi 1988, among others). So, the pattern where the accusative DO binds the $se$-$PP$ can be a derived position for the DO. Additionally, base-generation of both relative orders of PP and $DP_{ACC}$ raises questions from the standpoint of UTAH (Baker 1988).

Specifically, while the theme argument is in the specifier of V in (45a), it is the sister of V in (45b) (Bowers 2010).

Anagnostopoulou justifies base-generation of both structures by appeal to Marantz’s (1993) proposal that certain thematic roles are such that it does not matter where the one is merged relative to the other. However, the thematic role of the IO in the goal ditransitive construction, namely potential recipient goal, is not one of the thematic roles mentioned by Marantz (1993). Marantz proposes that thematic roles, such as instrument, affected object locative, and inalienable possessor, which are affected simultaneously in the same event as the theme, may be higher or lower than the theme. On the other hand, benefactives, malefactives, datives of interest, alienable possessors and directional locatives, which are separate from and sequentially later than the event affecting the theme, must be higher than the theme. Marantz’s system thus provides no support for freely generating recipient goal $se$-PPs in two distinct locations.

In the remainder of this section I argue for an alternative to Anagnostopoulou’s two
underlying orders for the PC. In particular, I propose that $se\text{-}PP>DP_{\text{ACC}}$ is the base order, while $DP_{\text{ACC}}>se\text{-}PP$ is derived by movement.

That the underlying order of the PC is $PP>DO$ has been also argued for English PCs. Using primarily backward binding facts (47d), first noted by Burzio (1986), Kitagawa (1994), Pesetsky (1995), Vukic (2003), Doggett (2004), and Bowers (2010), among others, demonstrate that even if the anaphor in (47d) is not c-commanded by its antecedent at surface, a reconstruction effect is induced at LF due to movement of the DO. The DOC, on the other hand, does not exhibit reconstruction effects, as shown in (47b).

(47) a. Sue showed John and Mary each other’s friends.
   b. *Sue showed each other’s friends John and Mary.
   c. Sue showed John and Mary to each other’s friends.
   d. Sue showed each other’s friends to John and Mary.

The acceptability of (47d), in contrast to (47b), suggests that the DP containing the reciprocal anaphor in (47d) has been moved from an underlying position to the right of the goal PP.94

Greek has no exact counterpart of English reciprocal each other binding, but evidence in support of $se\text{-}PP>\text{ACC}$ as underlying order comes from depictive stranding.95 Greek depictives are of the English type. They can be predicated of direct objects (48a, 49a), but not of indirect objects (48b), even when the latter bear accusative case, as shown in example (49b).

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94 Note that Anagnostopoulou’s each… the other data in (46) is not exactly parallel to the English reciprocal binding data in (47). While each other in (47d) may precede its antecedent, each… the other must occur in a fixed surface order in English, as in Greek:
   (1) Sue showed each child to the other’s friend.
   (2) *Sue showed the other’s friend to each child.
These facts indicate that unlike reciprocal binding, each… other is of limited utility in determining the underlying order of DO and PP.
95 Bowers (2010) also uses depictive stranding to show that the to-PP c-commands the theme in English PCs.
(48) a. O Nikos edhose tis Marias [ti bira,]i zesti,i
    the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN the.ACC beer.ACC warm.ACC
    ‘Nick gave the beer to Mary warm.’
  b. *O Nikos edhose [tis Marias], [ghimnis],
    the.NOM Nick.NOM gave.3SG the.GEN Mary.GEN naked.GEN
    ti bira
    the.ACC beer.ACC
    *‘Nick gave Mary the beer naked.’

(49) a. O Nikos servire ti Maria [ti bira],i zesti,i
    the.NOM Nick.NOM served.3SG the.ACC Mary.ACC the.ACC beer.ACC warm.ACC
    ‘Nick served the beer to Mary warm.’
  b. *O Nikos servire [ti Maria], ti bira
    the.NOM Nick.NOM served.3SG the.ACC Mary.ACC the.ACC beer.ACC
    ghimni,i
    naked.ACC
    *‘Nick served Mary the beer naked.’

Depictives in Greek can be stranded by A-movement, for example by passive or unaccusative movement (50). My account of depictives is consistent either with the DO and the depictive forming a constituent (Marusic et al. 2008), or with the DO controlling PRO in the specifier of the depictive small clause (Bowers 1993, among others). In the latter case, no other eligible controller (DP) may intervene between the depictive and PRO.

(50) a. I bira servirete kria
    the.NOM beer.NOM serve.NON-ACT.3SG cold.NOM
    ‘Beer is served cold.’
b. Eftase kathisterimenos

arrived.3SG late.MASC.NOM

‘He arrived late.’

Crucially, depictives can also be stranded by ACC PP depictive stranding, as shown in (51).

(51) O Nikos edhose [ti bira], sti Maria tι zestiι

the.NOM Nick.NOM gave.3SG the.ACC beer.ACC to.the.ACC Mary.ACC warm.ACC

‘Nick gave the beer to Mary warm.’

Depictive stranding suggests that the DP_{ACC}>PP order is derived by some type of movement. I propose that the movement that derives the order DP_{ACC} PP depictive is Short Object Shift (SOS) / A-scrambling of the accusative DP to [Spec, vP]. Greek short A-scrambling is like Japanese short scrambling in that it appears to be a pure EPP-driven operation (Miyagawa 1997, 2001, among others).

Evidence in support of an A-movement analysis comes from weak crossover (WCO) facts. WCO is a standard test for determining underlying order (Saito and Hoji 1983). As illustrated in (52-53), A-bar movement triggers WCO (52b)96, but A-movement does not (53b).

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96 As Anagnostopoulou (2003) notes the existence of WCO effects in wh-questions has been questioned in Greek by Catsimali (1990), Horrocks (1994), and others. I agree with Anagnostopoulou, though, in that there is a contrast and apparently a dialect split with respect to WCO judgments.
Now let us apply the WCO test to the ACC PP depictive stranding pattern. The examples below contrast depictives stranded from an accusative DO in the DOC (54a-b) with depictive stranding in the PC (54c-d).
(54) a. [Pias miteras], paredhoses to pedhi
   which.FEM GEN mother.FEM GEN gave.2SG the.NEUT ACC child.NEUT ACC
tis_i nekro?
   POSS.3SG.FEM dead.NEUT ACC
   ‘Which mother did you give her child dead?’

b. ?*[Pio pedhi]i paredhoses tis miteras
   which.NEUT ACC child.NEUT ACC gave.2SG the.FEM GEN mother.FEM GEN
tu_i nekro?
   POSS.3SG.NEUT dead.NEUT ACC
   ‘Which child did you give to his mother dead?’

c. Se [pia mitera]i paredhoses to pedhi
   to which.FEM ACC mother.FEM ACC gave.2SG the.NEUT ACC child.NEUT ACC
tis_i nekro?
   POSS.3SG.FEM dead.NEUT ACC
   ‘To which mother did you give her child dead?’

d. [Pio pedhi]i paredhoses sti mitera
   which.NEUT ACC child.NEUT ACC gave.2SG to the.FEM ACC mother.FEM ACC
tu_i nekro?
   POSS.3SG.NEUT dead.NEUT ACC
   ‘Which child did you give to his mother dead?’

Strikingly, while the DP_{ACC}>DP_{GEN} pattern in the DOC (54b) shows WCO effects, DP_{ACC}>PP in the PC (54d) does not. This suggests that while DP_{ACC}>DP_{GEN} order is derived by A-bar movement, as proposed by Anagnostopoulou, DP_{ACC}>PP can be derived by A-movement, in other words by SOS.
Why should it be possible to A-move over a PP goal, but not over a genitive DP goal? I follow Chomsky (1998) and Boeckx (1999) in assuming that prepositions are deficient barriers, in the sense that I make precise below. According to the structure I proposed in (35), se-PPs and genitive DPs originate in the same position, namely [Spec, VP]. With the preposition se ‘to’ constituting a deficient barrier (the preposition is what prevents a feature relation to be established between T, the attractor, and the DP), movement of the DO to [Spec, vP] is not blocked. Unlike se-PPs, genitive DPs are not dominated by a preposition, so strict Shortest Move is observed and raising of the DO is blocked. Miyagawa (1997) proposes a similar analysis for numeral quantifier stranding in Japanese ditransitive constructions: stranding is possible when an accusative object is short scrambled over a PP, but bad when short scrambling takes place over a dative goal. The facts in (54) indicate that in Greek too, genitive DP goals are interveners for A-movement, but PP goals are not.

97 Note that the same analysis can also account for experiencer genitive DPs and se-PPs of mono-clausal NP movement constructions (1), under the assumption that they are base generated in the same position. Yet, as Anagnostopoulou (2003) observes, experiencer DPs / PPs of bi-clausal environments, such as raising constructions (2), show a different pattern. In raising constructions both experiencer DPs and PPs block movement of the embedded subject to [Spec, TP]. In response to these facts, I suggest a preliminary hypothesis that the intervention of PPs in raising constructions is a combination of the bi-clausal properties of raising constructions and the lack of movement of the experiencer, assuming that experiencers are merged in [Spec, ApplP] (contrast to recipient PCs where movement of the PP from [Spec, VP] to [Spec, ApplP] is involved).

(1) a. ?*Afta ta vivlia aresun tu
   these.NOM the.NOM books.NOM please.3PL the.GEN
   Petru poli
   Peter.GEN a:lot
   ‘Peter likes these books a lot.’
   b. Afta ta vivlia aresun ston Petro poli
   these.NOM the.NOM books.NOM please.3PL to.the.ACC Peter.ACC a:lot
   ‘Peter likes these books a lot.’

(2) a. *Ta pedhia dhen fenode tis
   the.NOM children.NOM NEG seem.3PL the.GEN
   Marias na meletun
   Mary.GEN to study.3PL
   ‘The children do not seem to Mary to study.’
   b. *Ta pedhia dhen fenode sti Maria na meletun
   the.NOM children.NOM NEG seem.3PL to”the.ACC Mary.ACC to study.3PL
   ‘The children do not seem to Mary to study.’
4.3.2 VP-external Extra Arguments: Thematic Applicatives

In section 4.2, I applied Pylkkänen’s and Anagnostopoulou’s semantic and syntactic diagnostics to show that Greek bene-/malefactives are instances of thematic (high) applicatives, independently of their categorical status, i.e., whether they are realized as *se*-PPs or genitive DPs/clitics. The remainder of this section explicates how nominal and prepositional benefactive/malefactive constructions are derived syntactically.

4.3.2.1 Nominal

The thematic applicative structure in (55) predicts that bene-/maleficiaries bearing genitive case c-command the accusative theme.

\[
(55) \left[ vP \left[ \text{ApplP} \left[ \text{DP_{BNF/MLF \ Appl}} \left[ vP V \right] \text{DP_{THEME}} \right] \right] \right]
\]

This is indeed correct, based on the reciprocal binding data in (56), first noted by Anagnostopoulou (2005).

(56) Benefactives: \(DP_{GEN} \rightarrow DP_{ACC}\)  
\[a.?'O\ arhitektonas schedhiase tu enos pelati to\]
\[the.NOM architect.NOM sketched.3SG the.GEN one.GEN client.GEN the.ACC\]
\[spiti tu alu\]
\[house.ACC the.GEN other.GEN\]
\[‘The architect sketched each client the other’s house.’\]
b. *Ο arhitektonas schedhiase tu idhioktiti tu alu
   the.NOM architect.NOM sketched.3SG the.GEN owner.GEN the.GEN other.GEN
to ena spiti
   the.ACC one.ACC house.ACC
   ‘The architect sketched the other’s owner each house.’

   Like beneficiaries, genitive maleficiaries c-command the theme, as the binding data in (57) illustrate.

(57) Maleficiaries: $D_{GEN}>D_{ACC}$
a. ?Estisan tu enos apodhekti ti farsa tu alu
   set.3PL the.GEN one.GEN receiver.GEN the.ACC prank.ACC the.GEN other.GEN
   ‘They set each subject the other’s prank.’ (In a context where there is a show such as Candid Camera, where the crew sets pranks on people.)
b. *Estisan tu apodhekti tis alis ti mia farsa
   set.3PL the.GEN receiver.GEN the.GEN other.GEN the.ACC one.ACC prank.ACC
   ‘They set the other’s subject each prank.’

   The syntactic licensing of thematic applicatives in Greek proceeds as in German. Assuming that Appl bears an EPP feature (see the discussion on raising applicatives in 4.3.1.1) and Move precedes Merge in Greek, in (58), as soon as Appl is merged, its EPP feature attracts the DO to its specifier. Then IO enters the derivation with an interpretable Case feature which is valued at Merge with Appl. The IO is merged via tucking in below the DO. In the next step of the derivation, $v$ is merged and probes for a matching goal. The closest DP with an unchecked Case feature, the DO, enters into an Agree relation with $v$. 

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Inherent Case on the IO prevents it from undergoing A-movement to [Spec, TP] to check nominative Case in passive (McGinnis 1998, among others). This explains why examples (4b-c), repeated below, are ungrammatical.

(4) b. *[I Maria]_{BNF} anihtike tin porta apo to Niko
    the.NOM Mary.NOM opened.NON-ACT.3SG the.ACC door.ACC by the.ACC Nick.ACC

c. *[I Maria]_{MLF} stithike mia farsa apo to Niko
    the.NOM Mary.NOM set.NON-ACT.3SG a.ACC prank.ACC by the.ACC Nick.ACC

Unlike raising applicative constructions, thematic applicative constructions in Greek do not allow theme passivization under any circumstances, as examples (14a-b), repeated below, and (59) illustrate (compare to theme passivization of recipient DOCs). The impossibility of passive with nominal and prepositional beneficiaries can be explained if only ‘active’ $v$ ($v$ which
assigns a thematic role) selects ‘active’ Appl (Appl which assigns a thematic role) (Anagnostopoulou 2005, Georgala and Whitman 2009). 98

(14) Passive: Benefactive DOC

a. *O kafes tis ftiiahtike (Anagnostopoulou 2005:78)
   the. NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG
   (tis Marias) apo ton Petro
   the.GEN Mary.GEN by the.ACC Peter.ACC
   ‘The coffee was made for her (Mary) by Peter.’

b. *O kafes ftiiahtike tis Marias (Anagnostopoulou 2005:77)
   the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN
   (apo ton Petro)
   by the.ACC Peter.ACC
   ‘The coffee was made for Mary (by Peter).’

(59) Passive: Malefactive DOC

a. ?*Mia farsa tis stithike (tis Marias)
   a. NOM prank.NOM CL.3SG.FEM.GEN set. NON-ACT.3SG the.GEN Mary.GEN
   apo to Nick
   by the.ACC Nick.ACC

98 To account for the passive facts in (14), Bowers and Georgala (2007) alternatively propose that DOs in benefactive constructions do not bear structural Case. However, evidence that DOs bear a structural Case feature comes from the fact that the middle construction provides systematic alternation between accusative and nominative in bene-/malefactive DOCs. For example, the accusative object in (1a) surfaces as nominative in the middle form in (1b).

(1) a. O Nikos su epsise to kreas orea
   the.NOM Nick.NOM CL.2SG.GEN roasted.ACT.3SG the.ACC meat.ACC well
   ‘Nick roasted the meat well for you.’

b. To kreas su psithike orea
   the.NOM meat.NOM CL.2PL.GEN roasted.NON-ACT.3SG well
   ‘The meat roasted well and this pleased you.’
b. *Mia farsa stithike tis Marias apo to Niko
   a. NOM prank.NOM set.NON-ACT.3SG the.GEN Mary.GEN by the.ACC Nick.ACC

   ‘A prank was set on Mary by Nick.’

4.3.2.2 Prepositional

Genitive DP beneficiaries and maleficiaries may also be expressed as *se-PPs. As already illustrated in Section 4.2.2, genitive DP and *se-PP bene-/maleficiaries behave exactly the same in theme passivization and nominalization. To account for the ungrammaticality of theme passives with *se-PPs (60a-b), I assume that: (i) both *se-PP bene-/malefactives and genitive bene-/malefactives originate in the same position, [Spec, ApP] (58), and (ii), as in the case of genitive beneficiaries, only ‘active’ v (v which assigns a thematic role) selects ‘active’ ApP (ApP which assigns a thematic role).

(60) a. *To aftokinito aghorastike sti Maria
       the.NOM car.NOM bought.NON-ACT.3SG to:the.ACC Mary.ACC
       apo to Niko
       by the.ACC Nick.ACC

       ‘The car was bought for Mary.’

   b. *?Mia farsa stithike sti Maria apo to Niko
      a. NOM prank.NOM set.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Nick.ACC

      ‘A prank was set on Mary by Nick.’

More evidence about the shared properties of genitive and *se-PP beneficiaries comes from reciprocal binding. The examples in (56), repeated from above, and (61) show that the beneficiary, irrespectively of how it is realized, c-command the theme.
(56) $DP_{GEN} > DP_{ACC}$  

(Anagnostopoulou 2005:81)

a. Ὅ αρχιτέκτων σχεδίασε το ένος πελάτη το σπίτι του άλλου

architect.sketched.3SG client.the ACC

house.ACC other.GEN

‘The architect sketched each client the other’s house.’

b. *Ο αρχιτέκτων σχεδίασε το ιδιοκτήτη το άλλο σπίτι

architect.sketched.3SG owner.the.GEN other.GEN

to one ACC

house.GEN

‘The architect sketched the other’s owner each house.’

(61) $se-PP > DP_{ACC}$  

(Anagnostopoulou 2005:81-82)

a. Ο αρχιτέκτων σχεδίασε στο ένα πελάτη το σπίτι

architect.sketched.3SG client.the.GEN

house.GEN

‘The architect sketched each client the other’s house.’

b. *Ο αρχιτέκτων σχεδίασε στον ιδιοκτήτη το σπίτι

architect.sketched.3SG owner.the.GEN

to one ACC

house.GEN

‘The architect sketched the other’s owner each house.’

As Anagnostopoulou (2005) further observes, in the order $DP_{ACC} > se-PP$, which is fine in Greek, binding of the beneficiary by the theme is deviant (62), suggesting that $se-PP > DP_{ACC}$ is the base order.
Malefactuals *se*-PPs, like benefactive ones, c-command the theme, as the binding data in (63) suggest.

(63) *se*-PP>*DP_{ACC}

a. ?Estisan ston enan apodhekti ti farsa tu alu
   set.3PL to:the.ACC one.ACC receiver.ACC the.ACC prank.ACC the.GEN other.GEN
   ‘They set each subject the other’s prank.’

b. *Estisan ston apodhekti tis alis ti mia farsa
   set.3PL to:the.ACC receiver.ACC the.GEN other.GEN the.ACC one.ACC prank.ACC
   ‘They set the other’s subject each prank.’

*DP_{ACC}>*se*-PP

c. ?*Estisan ti mia farsa ston apodhekti tis alis
   set.3PL the.ACC one.ACC prank.ACC to:the.ACC receiver.ACC the.GEN other.GEN
   ‘They set each prank to the other’s subject.’

Regarding benefactive *ya*-PPs, Anagnostopoulou (2005) argues that they present conflicting evidence with respect to their phrase structure status, namely whether they are adjuncts or arguments. I agree with Anagnostopoulou (2005), and below I present in detail the evidence she provides. 
Benefactive constructions with \( y\alpha \)-PPs allow both \(<y\alpha \text{-PP}, \ \text{DP}_{\text{ACC}} >\) and \(<\text{DP}_{\text{ACC}}, \ y\alpha \text{-PP}>\) orders, as shown in (64).

(64) a. Eftiaxa to fayito ya ti Maria \ (\text{Anagnostopoulou 2005:82})
made.1SG the.ACC food.ACC for the.ACC Mary.ACC
b. Eftiaxa ya ti Maria to fayito
made.1SG for the.ACC Mary.ACC the.ACC food.ACC
‘I made the food for Mary.’

Assuming that A-binding is possible only by items in A-positions, \( y\alpha \)-PPs behave like arguments based on the binding data in (65-66), observed by Anagnostopoulou (2005).

(65) \( \text{DP}_{\text{ACC}} > y\alpha \text{-PP} \) \ (\text{Anagnostopoulou 2005:82-83})
a. O raftis ekane lathos ke erapse to ena kustumi
the.NOM tailor.NOM made.3SG mistake.ACC and sewed.3SG the.ACC one.ACC suit.ACC
ya ton aghorasti tu alu
for the.ACC buyer.ACC the.GEN other.GEN
b. *O raftis ekane lathos ke erapse to kustumi
the.NOM tailor.NOM made.3SG mistake.ACC and sewed.3SG the.ACC suit.ACC
tu alu ya ton ena pelati
the.GEN other.GEN for the.ACC one.ACC client.ACC

(66) \( y\alpha \text{-PP} > \text{DP}_{\text{ACC}} \) \ (\text{Anagnostopoulou 2005:83})
a. O arhitektonas schedhiase ya ton ena pelati to
the.NOM architect.NOM sketched.3SG for the.ACC one.ACC client.ACC the.ACC
spiti tu alu
house.ACC the.GEN other.GEN
b. *O arhitektonas schedhiase ya ton idhioktiti tu alu the.NOM architect.NOM sketched.3SG for the.ACC owner.ACC the.GEN other.GEN
to ena spiti the.ACC one.ACC house.ACC
‘*The architect sketched the other’s owner each house.’

More concretely, what (65-66) show is that whichever argument is leftmost binds the other. The above facts lead Anagnostopoulou to propose the free base-generation analysis in (67) for ya-PP benefactive constructions.

(67)  a. VP b. VP (Anagnostopoulou 2005:83)
\[
\begin{array}{c}
\text{DP}_{\text{ACC}} \\
V' \\
V \\
\end{array}
\begin{array}{c}
\text{ya-PP} \\
V' \\
V \\
\end{array}
\text{DP}_{\text{ACC}}
\]

However, by applying a traditional diagnostic test for adjunct-hood, namely ‘do-so’-substitution, whose equivalent in Greek is \textit{kano to idhio} ‘do the same’, Anagnostopoulou (2005) shows that \textit{ya}-PP beneficiaries may be adjuncts. The examples in (68) compare benefactive sentences, where the beneficiary is realized as the complement of a \textit{ya}-PP (68a), the complement of a \textit{se}-PP (68b), and as a genitive DP (68c). In (68a) \textit{ya}-PP is an adjunct and therefore \textit{kano to idhio} ‘do the same’ can be anaphoric to the constituent \textit{V+DP eftiaxe kafe} ‘made coffee’, excluding the PP. By contrast, in (68b-c) the beneficiary is an argument of \textit{eftiaxe} ‘made’, thus the antecedent of \textit{kano to idhio} ‘do the same’ must include the beneficiary \textit{se}-PP or genitive DP.
(68) a. O Petros eftiaxe kafe (Anagnostopoulou 2005:84)
    the.NOM Peter.NOM made.3SG coffee.ACC
    ya ti Maria ke o Kostas ekane to idhio
    for the.ACC Mary.ACC and the.NOM Kostas.NOM did.3SG the.ACC same.ACC
    ya tin Katerina
    for the.ACC Katerina.ACC
    ‘Peter made coffee for Mary and Kostas did the same / did so for Katerina.’

b. *O Petros eftiaxe kafe sti Maria ke
    the.NOM Peter.NOM made.3SG coffee.ACC to:the.ACC Mary.ACC and
    o Kostas ekane to idhio stin Katerina
    the.NOM Kostas.NOM did.3SG the.ACC same.ACC to:the.ACC Katerina.ACC
    ‘Peter made Mary coffee and Kostas did so Katerina.’

c. *O Petros eftiaxe kafe tis Marias ke
    the.NOM Peter.NOM made.3SG coffee.ACC the.GEN Mary.GEN and
    o Kostas ekane to idhio tis Katerinas
    the.NOM Kostas.NOM did.3SG the.ACC same.ACC the.GEN Katerina.GEN
    ‘Peter made Mary coffee and Kostas did so Katerina.’

Summing up, while binding suggests that *ya*-PP beneficiaries are attached low, which leads to their analysis as arguments, ellipsis suggests that they are adjuncts. I will not attempt to resolve this issue here.

Like benefactive *ya*-PPs, malefactive *is/se varos* PPs also present conflicting evidence with respect to their status, as the c-command data in (69-70) and the results of applying the ‘do-so’-substitution diagnostic for adjunct-hood in (71) imply.
(69) $DP_{ACC}>is/se\ varos\ PP$

a. Ekanan lathos ke estisan ti mia farsa is varos tu apodhekti
   made.3PL mistake.ACC and set.3PL the.ACC one.ACC prank.ACC against the.GEN receiver.GEN
   tis alis
   the.GEN other.GEN
   ‘They made a mistake and set each prank on the subject of the other (prank).’

b. *Ekanan lathos ke estisan ti farsa tu alu
   made.3PL mistake.ACC and set.3PL the.ACC prank.ACC the.GEN other.GEN
   is varos tu enos apodhekti
   against the.GEN one.GEN receiver.GEN

(70) $is/se\ varos\ PP>DP_{ACC}$

a. Ekanan lathos ke estisan is varos tu enos apodhekti ti farsa
   made.3PL mistake.ACC and set.3PL against the.GEN one.GEN receiver.GEN the.ACC prank.ACC
   tu alu
   the.GEN other.GEN

b. *Ekanan lathos ke estisan is varos tu apodhekti tis alis
   made.3PL mistake.ACC and set.3PL against the.GEN receiver.GEN the.GEN other.GEN
   ti mia farsa
   the.ACC one.ACC prank.ACC

(71) ‘Do-so ‘-substitution test for adjunct-hood

a. O Nikos estise mia farsa is varos tis Marias
   the.NOM Nick.NOM set.3SG a.ACC prank.ACC against the.GEN Mary.GEN
   ke o Stavros ekane to idhio is varos tis Elenis
   and the.NOM Stavros.NOM did.3SG the.ACC same.ACC against the.GEN Helen.GEN
b. "*O Nikos estise mia farsa sti Maria ke
the.NOM Nick.NOM set.3SG a.ACC prank.ACC to.the.ACC Mary.ACC and
o Stavros ekane to idhio stin Eleni
the.NOM Stavros.NOM did.3SG the.ACC same.ACC to.the.ACC Helen.ACC

c. "*O Nikos estise mia plaka tis Marias ke
the.NOM Nick.NOM set.3SG a.ACC prank.ACC the.GEN Mary.GEN and
o Stavros ekane to idhio tis Elenis
the.NOM Stavros.NOM did.3SG the.ACC same.ACC the.GEN Helen.GEN

‘*Nick set a prank on Mary and Stavros did the same / did so on Helen.’

In this section I accounted for the semantic and syntactic properties of genitive and se-PP bene-/maleficiaries by analyzing them as thematic applicatives, merged in [Spec, ApplP]. Furthermore, I showed that beneficiaries and maleficiaries, introduced by the prepositions ya ‘for’ and is/se varos ‘against’ respectively, may be analyzed either as adjuncts or arguments.

4.4 Experimental Evidence on Locality Constraints of Theme Passives

So far I have proposed an analysis of Greek applicative constructions, based on a binary model of the empirical data\textsuperscript{99}, as they are reported in Markantonatou 1994, Anagnostopoulou 2003, Anagnostopoulou 2005, Bowers and Georgala 2007, and Georgala and Whitman 2009. One of the most important contributions of Anagnostopoulou 2003 is the observation about the interaction between NP-movement and cliticization, which in this chapter is illustrated by the passivization data in (13a-b), repeated below.

\textsuperscript{99} Featherston (2005) defines a binary model of data as a model in which a given example sentence is generally evaluated as either grammatical or ungrammatical.
(13) **Passive: Recipient DOC**

a. To vivlio tis haristike (Anagnostopoulou 2005:77)
   the.NOM book.NOM CL.3SG.FEM.Gen awarded.NON-ACT.3SG
   (tis Marias)
   the.Gen Mary.Gen
   ‘The book was awarded to her (Mary).’

b. ?To vivlio haristike tis Marias (Anagnostopoulou 2005:65)
   the.NOM book.NOM awarded.NON-ACT.3SG the.Gen Mary.Gen
   by the.Acc Peter.Acc
   apo ton Petro
   ‘The book was awarded to Mary by Peter.’

Anagnostopoulou’s data have been recently contested by Georgiafentis and Lascaratou (2007) and Kupula (2011), whose data shows that standalone genitive DPs do not intervene (cf. example 72 from Georgiafentis and Lascaratou 2007) in theme passives.

(72) To arthro mas (Georgiafentis and Lascaratou 2007:45)
   the.NOM paper.NOM POSS.1PL
   dhothike / stalthike / tahidhromithike tis Irinis
   gave.NON-ACT.3SG sent.NON-ACT.3SG mailed.NON-ACT.3SG the.Gen Irene.Gen
   *‘Our paper was given/sent/posted Irene.’

The dispute about which structures are and are not grammatical raises a question about the adequacy of Anagnostopoulou’s theory of locality and cliticization, in particular the claim that cliticization constitutes an “escape hatch” strategy to locality violations. Given the conflicting empirical evidence about the constraints on theme passives of DOCs, I applied the
methodology of magnitude estimation (Bard et al. 1996) to produce replicable grammaticality data as a basis for further work and to test competing accounts. Below I show that the experimental data support the asymmetry, illustrated in (13a-b).

In what follows, I first present the experiment, i.e., the materials, procedure, and results. I then discuss the results and propose an explanation about the lack of agreement in the literature. In the last part of the section I present the results of a pilot magnitude estimation experiment whose aim is to investigate Anagnostopoulou’s (2003, 2005) observation that theme passivization of benefactive DOCs is not rescued either by cliticization of the IO or the IO being the complement of the preposition se ‘to’ (73). The experiment data support Anagnostopoulou’s observation, while at the same time data harvested from the web show that in some cases Anagnostopoulou’s claim does not hold.

(73) a. *O kafes tis fiahtike (Anagnostopoulou 2005:78)
   the.NOM coffee.NOM CL.3SG.FEM.GEN made.NON-ACT.3SG
   (tis Marias) apo ton Petro
   the.GEN Mary.GEN by the.ACC Peter.ACC
   ‘*The coffee was made Mary by Peter.’

b. *O kafes fiahtike sti Maria (Anagnostopoulou 2005:77)
   the.NOM coffee.NOM made.NON-ACT.3SG to:the.ACC Mary.ACC
   (apo ton Petro)
   by the.ACC Peter.ACC
   ‘The coffee was made for Mary by Peter.’

c. O kafes fiahtike ya ti Maria (apo ton Petro)
   the.NOM coffee.NOM made.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Peter.ACC
   ‘The coffee was made for Mary by Peter.’
4.4.1 Are Theme Passives with Standalone Genitive DPs Grammatical?

When authors contest judgments reported in the preceding literature, it is clear that limited theoretical progress can be made. Therefore, my aim here is to determine whether Greek theme passives of raising applicatives with standalone genitive DPs are grammatical or not, by employing the magnitude estimation method.

4.4.1.1 The Experiment: Methodology and Procedure

The magnitude estimation method (Bard et al. 1996, Cowart 1997, Keller 2000) allows us to elicit more finely grained judgments and compare them meaningfully. It is based on a methodology used in psychophysics to grade physical sensations, such as brightness, and developed from there for use in attitude and opinion measurement (Stevens 1975). In order to remove the restrictions of the scale from subjects’ judgments, it varies from standard elicitation of grammaticality judgments in several ways. First, subjects are asked to provide relative judgments. This means that an absolute criterion of grammaticality is never applied. Also, all judgments are proportional, namely, subjects are asked to state how many times better or worse sentence A is than sentence B. The subjects themselves fix the value of the reference item (modulus) relative to which subsequent judgments are made. Moreover, the scale along which judgments are made is decided by the subjects themselves. Lastly, the scale has no minimum division, i.e., the subjects can always produce an additional intermediate rating. The results obtained exhibit more differentiation than conventional judgments are assumed to contain, since the limitation to a scale selected by the linguist is removed (Featherston 2005).100

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100 Cf. Sprouse 2008 and 2011, Weskott and Fanselow 2008, Bader and Häussler 2010, and Fukuda et al. 2011, where it is shown that linguistic magnitude estimation may not provide more accurate data than other tasks (e.g., n-point scale tasks), as has been previously suggested (Bard et al. 1996, Keller 2000, Featherston 2005, among many others).
In this study I tested nine pairs of passive sentences, consisting of one sentence with a genitive DP recipient and another sentence with a clitic recipient. The sentences with genitive DPs are based on passive DOC sentences with genitive DPs harvested from the web. The sentences were edited so as to minimize background variation. Three high-frequency prototypical ditransitive verbs were used: *dhino* ‘give’ (five pairs), *stelno* ‘send’ (three pairs) and *tahidhromo* ‘mail’ (one pair). These verbs are also used in the examples cited in Anagnostopoulou 2003, Anagnostopoulou 2005, Michelioudakis and Lascaridou 2007, and Kupula 2011. In (74) I exemplify a pair from the material used in the experiment.

(74) a. **Genitive DP IO**

I nomi pu dhothikan tu Moisi itan nomi afstiri
the.NOM laws.NOM that gave.NON-ACT.3PL the_GEN Moses_GEN were laws.NOM strict.NOM

‘The laws that were given to Moses were strict.’

b. **Genitive clitic IO**

I kanones pu tu dhothikan itan kanones afstiri
the.NOM rules.NOM that CL.3SG.MASC.GEN gave. NON-ACT.3PL were rules.NOM strict.NOM

‘The rules that were given to him were strict.’

The target materials (18 sentences total) were mixed among 12 sentences which made up the pilot experiment, I describe in Section 4.4.2, and 44 fillers. The total number of sentences each subject saw was 74.

The experiment had 102 participants and was performed remotely using the package WebExp (Keller et al. 1998, see http://www.language-experiments.org). The experiment proceeded as follows: first subjects read a page of instructions outlining their task. The criterion they were to judge by was defined as whether the sentences "sounded natural". The first practice phase aimed to familiarize them with magnitude estimation. In particular, they were instructed to
assign numeric values to line lengths relative to a reference line (modulus). This was followed by a second practice phase which extended the use of magnitude estimation to judging sentence acceptability. Only after this did the experiment itself begin. Each participant saw the sentences in random order.

4.4.1.2 Results and Discussion

The data was normalized by dividing each item’s score by the modulus score, and then the ratios and the z-scores of these ratios were plotted. This effectively unifies the different scales that the individual subjects adopted for themselves, and allows us to inspect the results visually.

The most significant result for our present purpose is presented in Figure 1, which on the scale axis shows the mean normalized grammaticality judgment score and 95% confidence interval by sentence type. Higher scores indicate greater perceived naturalness (note that there is no point which indicates absolute (un)grammaticality). Along the horizontal axis, the structures are grouped by verb. Figure 1 reveals that passive structures with genitive DP IOs are scored much lower than passives with genitive clitic IOs. Crucially, this result supports Markantonatou’s (1994) and Anagnostopoulou’s (2003) judgments.
Figure 1: Results of experiment on theme passives of Greek recipient DOCs. Judgments are distinguished by structure (clitic or DP) and main verb.

Figure 1 further shows that there is variation among the sentences depending on the verb. In order to explain the difference in naturalness between clitic passive sentences with send and the rest of the verbs, I present a more detailed plot of the data (Figure 2), in which along the horizontal axis the structures are grouped by sentence.
Figure 2: Results of experiment on theme passives of Greek recipient DOCs. Judgments are distinguished by sentence and structure (clitic or DP).

Figure 2 reveals that the decreased naturalness in the case of clitic sentences with send is due to the second and third clitic sentences. Why these sentences are less natural is not clear, but it may be related to the presence of a clitic doubled IO (75).

(75) I epistolí thá tu stali tu ghramatea
the.NOM letter.NOM FUT CL.3SG.MASC.GEN sent.NON-ACT.3SG the.GEN secretary.GEN
to sintomótero dhinaton
the.ACC sooner.ACC possible.ACC
‘The letter will be sent to the secretary as soon as possible.’
According to Philippaki-Warburton (1987), in Greek clitic doubling constructions the clitic puts the object into background information and makes it a topic. Thus, it is plausible that the subjects needed some background information to accommodate the sentences in question.

In sum, the results of the magnitude estimation experiment about strong dispreference of theme passives with genitive recipient DPs over their counterparts with clitics support Markantonatou’s (1994) and Anagnostopoulou’s (2003) judgments.

In this chapter I have proposed a novel analysis of theme passives only with a cliticized / clitic doubled IO (cf. Anagnostopoulou 2003 and Bowers and Georgala 2007 for alternative analyses). The data provided by Georgiafentis and Lascaratou 2007, and Kupula 2011, according to which theme passives with standalone DPs are natural require some explanation too, though. It is worth mentioning that these judgments are further supported by data harvested from the web (recall that the target sentences of the experiment were based on web data). In response to these facts, I suggest a preliminary hypothesis that there are two different grammars of Greek DOCs: one that allows genitive standalone DPs with theme passives, such as German, among other languages, and one that allows theme passives only in the presence of a cliticized / clitic doubled IO. I propose that the former grammar has raising applicatives of the German kind (cf. Section 3.2.3.2).

4.4.2 Are Theme Passives with Genitive Clitics / se-PPs Grammatical?

In this section I describe a pilot experiment whose aim is to determine whether Greek theme passives of benefactive DOCs with genitive clitics or se-PPs are grammatical or not, by employing the magnitude estimation method. Recall that benefactive DOCs and benefactive constructions with se-PPs pattern together, while ya-PP benefactive constructions behave

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101 The results of web harvesting indicate that theme passives with genitive DPs are very rare, but they do exist. All the web examples reported in this study were very carefully checked, so as to make sure that the sentences were written by native speakers.
differently (Anagnostopoulou 2005). According to Anagnostopoulou (2005), theme passivization is possible only when the beneficiary is realized as a \textit{ya}-PP (cf. example 73 repeated from above).

(73) a. *O kafes fiahtike tis Marias (Anagnostopoulou 2005:77)

\texttt{the.NOM coffee.NOM made.NON-ACT.3SG the.GEN Mary.GEN}

(apo ton Peter)

by the.ACC Peter.ACC

\textbf{‘*The coffee was made Mary by Peter.’}

b. *O kafes fiahtike sti Maria (apo ton Peter)

\texttt{the.NOM coffee.NOM made.NON-ACT.3SG to:the.ACC Mary.ACC by the.ACC Peter.ACC}

‘The coffee was made for Mary by Peter.’

c. O kafes fiahtike ya ti Maria (apo ton Peter)

\texttt{the.NOM coffee.NOM made.NON-ACT.3SG for the.ACC Mary.ACC by the.ACC Peter.ACC}

‘The coffee was made for Mary by Peter.’

Anagnostopoulou’s judgments have not been contested in the literature on Greek benefactive constructions (Bowers and Georgala 2007, Georgala and Whitman 2009), but careful harvesting of the web did reveal examples of theme passives with genitive clitic beneficiaries. A few of these examples are presented in (76).

(76) a. (http://www1.rizospastis.gr/wwwengine/storyPlain.do?id=4347256&action=print)

Dhen eklisa omos tin porta pu mu anihtike…

\texttt{NEG closed.1SG however the.ACC door.ACC that CL.1SG.GEN opened.NON-ACT.3SG}

‘However I didn’t close the door that was opened for me.’

Veveos, kali lisi dhen adilegho, ala pali tha adidhrasun ean avrio sure good.NOM solution.NOM NEG oppose.1SG but again FUT react.3PL if tomorrow tus ftiathi ena tetio oreotato

CL.3PL.MASC.GEN made.NON-ACT.3SG a.NOM such.NOM most:beautiful.NOM erghostasiaki apenadi apo to spiti tus

little:factory.NOM across from the.ACC house.ACC POSS.3PL

‘Sure, this is a good solution. I’m not opposing to it. But they will react again, if tomorrow a nice little factory is made for them across from the house.’

c. (http://www.sport-fm.gr/article/93891)

O idhios pantos, dhen borese na paravrethi stin ekdilos pu he:himself.NOM however NEG could.3SG to is:present in:the.ACC event:ACC that tu etimastike, omos stus fotinus pinakes

CL.3SG.MASC.GEN prepared.NON-ACT.3SG but on:the.ACC light.ACC tables.ACC tu stadhiu ihe anaghrafi to parakato minima:….the.GEN stadium.GEN had.3SG written.PPART the.NOM following message.NOM

‘He himself, however, couldn’t be present in the event which was prepared for him, but the following message was written on the stadium score boards:…’


Troi ipakua to fai pu tu aghorastike, efharisti eats dutifully the.ACC food.ACC that CL.3SG.MASC.GEN bought.NON-ACT.3SG thanks ton kirio ke fevyi

the.ACC gentleman.ACC and goes

‘(A little child) dutifully eats the food which was bought for him/her, thanks the gentleman and leaves.’
e. Enalaktika tha boruse na dhimiuryithi ena nisi stil, alternatively FUT could.3SG to created.NON-ACT.3SG an.NOM island.NOM style
Makronisu opu tha tus htisti apo ena
Makronisos.gen where FUT CL.3PL.MASC.gen built.NON-ACT.3SG from a.NOM spitaki ke tha zun mesa exoristi apo ta pada little:house.NOM and FUT live.3PL inside exiled.NOM from the ACC everything ACC
(me anthropines sinthikes, horis vasanistiria ktl)
with humanitarian ACC conditions ACC without tortures ACC etc.
‘Alternatively an island like Makronisos could be created, where a little house would be
built for each of them and they would live inside it being exiled from everything
(under humanitarian conditions, without torturing).’
(http://www.capital.gr/gmessages/showTopi.asp?id=1633221&pg=5&pid=1634024&orderdir=asc#post_1634024)

Theme passives with se-PPs are more rare, but they do exist (77).

(77) (http://arion-stavros.blogspot.com/2008/09/blog-post.html)
Ena neo monopati anihtike sto Stavro me protovulia a.NOM new.NOM path.NOM opened.NON-ACT.3SG to:the ACC Stavro ACC with initiative ACC
tu Dhimu Ahilion the GEN town GEN Ahilia GEN
‘A new path was opened for Stavros under the initiative of the Town of Ahilia.’

Given this conflicting empirical evidence about the restriction on theme passivization of
benefactive DOCs, I applied the magnitude estimation method to produce grammaticality data to
test Anagnostopoulou’s analysis. The results of the experiment support Anagnostopoulou’s
(2005) intuitions (cf. example 73). In the remainder of this section I present the materials, procedure and results of the experiment.

The material tested in this study was split into four groups based on the main verb: *anigho* ‘open’, *ftiahno* ‘make’, *mayirevo* ‘cook’, *metafrazo* ‘translate’. *Make* and *cook* are prototypical benefactive verbs, cited in Anagnostopoulou 2005. *Open* and *translate* are cited in the literature as prototypical high applicative verbs, whose semantics does not entail transfer of possession. All four verbs appear with a high frequency in Greek. Each verb group consists of three different types of sentences. The sentence types are theme passives with the beneficiary being realized as: (i) genitive clitic, (ii) *se*-PP, and (iii) *ya*-PP. An example from the experiment materials is illustrated in (78).

(78) a. *Theme passive with a benefactive genitive clitic*

\[
\text{I (aliis ton Meston ine evghnomones pu tus)} \\
The \text{fishermen of Mesta are thankful that a supermodern port they didn’t ask for was made for them.}
\]

b. *Theme passive with se-PP*

\[
\text{Ta (fayita pu ftiahnode stus fadarus dhen)} \\
The \text{food which is made for soldiers is inedible.}
\]

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\text{102} The passive sentences with clitics are based on sentences harvested from the web.
c. **Theme passive with ya-PP**

Ta fayita pu ftiahnod ya tus fitites ine halia

the. NOM dishes. NOM that make. NON-ACT. 3PL for the. ACC students. ACC are terrible

‘The food which is made for the students is terrible.’

The procedure adopted was as in the previous experiment. The target sentences were mixed among 44 fillers and the 18 sentences which made up the previous experiment. Each of the 102 subjects saw a total of 74 sentences. Like in the previous experiment, the data was normalized by dividing each item’s score by the modulus score, and then the ratios and the z-scores of these ratios were plotted.

Figure 3 presents the most significant result, namely that theme passivization with ya-PPs is much more natural than with a genitive clitic or a se-PP, supporting thus Anagnostopoulou’s (2005) observation. The only exception to this result are the sentences with *translate* (79).

(79) a. **Theme passive with a benefactive genitive clitic**

Tu metafrastikan oles i odhiyies sta

CL. 3SG. MASC. GEN translated. NON-ACT. 3PL all. NOM the. NOM instructions. NOM into: the. ACC

Elinika yati dhen ixere Ghalika

Greek. ACC because NEG knew. 3SG French. ACC

‘All the instructions were translated to him into Greek, because he didn’t know French.’

b. **Theme passive with se-PP**

Metafrastike sto Niko to kimeno sta Elinika

Translated. NON-ACT. 3SG to: the. ACC Nick. ACC the. NOM text. NOM into: the. ACC Greek. ACC

yati dhen iksera Aglika

because NEG knew. 3SG English. ACC

‘The text was translated to Nick into Greek, because he didn’t know English.’
c. *Theme passive with ya-PP*

Metafrastikan ya to Niko ola ta eghrafa translated.NON-ACT.3PL for the.ACC Nick.ACC all.ACC documents.ACC sta Elinika yati dhen iksere Ispanika into:the.ACC Greek.NOM because NEG knew.3SG Spanish.ACC

‘All the documents were translated into Greek for Nick, because he didn’t know Spanish.’

As illustrated in Figure 3, in the case of *translate* theme passivization with a clitic is more natural than with *ya*-PP. A possible explanation of this discrepancy is that the clitic IO was interpreted as a recipient. However, this does not explain why theme passivization with *se*-PP is not better than with *ya*-PP\(^{103}\), since *se*-PPs and genitives DPs have been shown to behave similarly (Anagnostopoulou 2005, Bowers and Georgala 2007, and Georgala and Whitman 2009). More data will probably contribute to a better understanding of the behavior of *translate*.

Now, when it comes to theme passives with *se*-PPs and genitive clitics of the rest of the verbs, Figure 3 shows variation regarding their degree of naturalness. In particular, in the case of *make* theme passives with *se*-PPs are significantly more natural than with clitics, while the opposite holds for theme passives with *open* and *cook*. I will not attempt to explain the theoretical implications of these results here, since the data in the experiment is very limited. In future research I plan to set up a large-scale magnitude estimation experiment comparing *se*-PP and clitic benefactive theme passives to test the syntactic analysis of base-generating these two constructions in the same position, [Spec, ApplP]. Based on this analysis one would predict that both constructions would also behave similarly in terms of how naturally they are interpreted.

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\(^{103}\) Actually the difference between the *se*-PP and the *ya*-PP theme passive of *translate* is not statistically significant.
Figure 3: Results of experiment on theme passives of Greek benefactive constructions. Judgments are distinguished by verb and structure (clitic, se-PP, ya-PP).

In sum, the results of the second magnitude estimation experiment indicate strong dispreference of benefactive theme passives with genitive clitics / se-PPs over their counterparts with ya-PPs. This result supports Anagnostopoulou’s (2005) data. The examples I harvested from the web (cf. 76, 77), which attest that benefactive theme passives occur with genitive clitics and se-PPs, require some explanation as well, though. As in the case of genitive recipients, I will also here preliminarily propose that there are two different grammars of benefactive constructions in Greek: one that allows theme passives with applied arguments (cliticized or se-PP beneficiaries) and one that does not.

In Section 4.3.2 I have proposed an account of the benefactive construction of the second grammar. As a reminder, the beneficiary receives inherent genive Case from the applicative head, while the theme receives structural accusative Case from v. The impossibility of passive with benefactive applied arguments can be explained if only ‘active’ v selects ‘active’ Appl.
Thematic applicatives in the former grammar are different in that also defective (inactive) \( v \) selects Appl. The syntactic licensing of thematic applicatives in this grammar of Greek appears to be similar to the syntactic licensing of German thematic applicatives with one caveat: German thematic applied arguments never intervene for Shortest Move/Relativized Minimality, while in Greek it is not clear whether full genitive DPs intervene or not. The examples harvested from the web are only with clitics and \( se\)-PPs. A preliminary search of a few verbs in the theme passive construction with a full genitive DP led to no hits.\(^{104}\) If full genitive DPs do not intervene, then this grammar of Greek is like German. If full genitive DPs do intervene, though, then an analysis similar in spirit to the one I proposed for raising applicatives in German, namely that the IO bears quirky genitive Case, may explain the data. Further research to determine which option is correct will require empirical work specifically with speakers of this variety of Greek.

Alternatively the extra-object constructions in examples (75–76), which I considered to be benefactive constructions based on Anagnostopoulou’s (2003, 2005) criteria, may allow a recipient reading on their IO/\( se\)-PP. As these examples show, the recipient reading is particularly salient in passives. This may imply that when speakers use \( se\)-PPs or genitive clitics rather than \( ya\)-PPs in passives, they try to accentuate the recipient reading.

To conclude this section, I presented the results of two magnitude estimation experiments whose aim was to test the data on theme passivization of raising and thematic applicatives, as they are presented in Anagnostopoulou (2003, 2005), among others. The experimental results supported Anagnostopoulou’s grammaticality judgments, of which I have provided a novel analysis in Section 4.2 of this chapter. Yet, I did not dismiss the data contesting the results of the experiments and Anagnostopoulou’s, among others, judgments. Instead, I provided a preliminary explanation of these conflicting data by assuming that there exist two grammars of Greek benefactive DOCs: one that bans theme passivization, but allows it only

\(^{104}\) Although, as Heycock (2008) notes, corpus data typically allow no straightforward distinction between non-occurring and ungrammatical.
under very special circumstances, namely cliticization of the recipient IO, and another one that allows theme passives of DOCs and thus behaves similarly to German.

So far, I have only discussed genitive extra-objects in Greek, which I have accounted for by positing a single applicative head above the lexical VP. In the following section, I provide additional evidence in support of a single applicative head for capturing the typology of dative core and non-core arguments crosslinguistically, namely “ethical datives”, which I propose should not be analyzed as applicatives (cf. Cuervo 2003, Michelioudakis and Sitaridou 2008, Mavrogiorgos 2010, among others).

4.5 Ethical Datives

As in other languages, ethical datives in Greek appear rather freely. Although they occur more frequently in directive and exclamatory sentences, ethical datives can still be found in declarative sentences, and also in embedded clauses. Ethical datives refer to discourse participants, hearers or speakers, or any individual that is a reported discourse participant.

As in German and other languages, ethical datives in Greek have a restricted syntactic and morphological behavior. The main morpho-syntactic features of ethical datives, as they appear in Michelioudakis and Sitaridou (2008), are summarized below:
(i) Unlike genitive arguments (1b-d), ethical datives surface only as clitics mainly in 1st and 2nd person (80). However, there are contexts that allow ethical datives in 3rd person as well, as example (81a) illustrates.

(80) a. Filise $mu$ tin Keti (Michelioudakis and Sitaridou 2008:1)
    kiss.2SG.IMP CL.1SG.GEN the.ACC Kate.ACC
b. *Filise *emena tin Keti

kiss.2SG.IMP me.GEN the.ACC Kate.ACC

‘Kiss Kate for my sake / on my behalf!’

c. (Tzartzanos 1946:125, as cited in Michelioudakis and Sitaridou 2008:4)

Su ehun kati dhodia ta tiflopodika pu se tromazun

CL.2SG.GEN have.3PL some teeth.ACC the.NOM moles.NOM that CL.2SG.ACC frighten.3PL

d. *Ehun esena kati dhodia ta tiflopodika pu se tromazun

have.3PL you.GEN some teeth.ACC the.NOM moles.NOM that CL.2SG.ACC frighten.3PL

‘Moles have so big teeth that they can frighten you.’

(81) a. Su ipe i Maria{i} oti {tis}{i}

CL.2SG.GEN said.3SG the.NOM Mary.NOM that CL.3SG.FEM.GEN

padrefti ke telika i mikri tis{i} adherfi?

married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM sister.NOM

‘Did Mary tell you that her young sister finally got married to her delight?’

b. *Tis Marias{i} padrefti ke telika i mikri tis{i}

the.GEN Mary.GEN married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM

adherfi

sister.NOM

‘Mary{i}’s sister got married to her{i} delight.’

(ii) Different from genitive arguments, ethical datives do not alternate with PPs (compare to 2a-e).

(82) a. *Filise *se ’mena / ya ’mena tin Keti

kiss.2SG.IMP to me.ACC / for me.ACC the.ACC Kate.ACC

‘Kiss Kate for me!’
b. *Sti Maria, padreftike telika i mikri tis, to:the.ACC Mary.ACC married.NON-ACT.3SG finally the.NOM young.NOM POSS.3SG.FEM adherfi
sister.NOM

(iii) Unlike direct object clitics (83) and clitics of genitive arguments (84), clitic doubling of ethical datives is infelicitous (85a). But note that Clitic Left Dislocation (85b) and Clitic Right Dislocation (85c) of ethical datives are marginally grammatical.

(83) a. Ti filise
   CL.3SG.FEM.ACC kissed.3SG
   ‘He/she kissed her.’

b. Ti filise ti Maria
   CL.3SG.FEM.ACC kissed.3SG the.ACC Mary.ACC
   ‘He/she kissed Mary.’

(84) *Recipient DOC*

a. Tis edhose to vivlio
   CL.3SG.FEM.GEN gave.3SG the.ACC book.ACC
   ‘He/she gave her the book.’

b. Tis edhose tis Marias to vivlio
   CL.3SG.FEM.GEN gave.3SG the.GEN Mary.GEN the.ACC book.ACC
   ‘He/she gave Mary the book.’

*Benefactive DOC*

c. Tis anixe tin porta
   CL.3SG.FEM.GEN opened.3SG the.ACC door.ACC
   ‘He/she opened the door for her.’
d. Tis anixe tis Marias tin porta
   CL.3SG.FEM GEN opened.3SG the. GEN Mary. GEN the. ACC door. ACC
   ‘He/she opened the door for Mary.’

Malefactive DOC

e. Tis estise mia farsa
   CL.3SG.FEM GEN set.3SG a. ACC prank. ACC
   ‘He/she set a prank on her.’

f. Tis estise tis Marias mia farsa
   CL.3SG.FEM GEN set.3SG the. GEN Mary. GEN a. ACC prank. ACC
   ‘He/she set a trap for Mary (to fall into).’

(85) a. O Yanis dhen *(tis) (Michelioudakis and Sitaridou 2008:4)
    the. NOM John. NOM NEG CL.3SG. FEM. GEN
    meletai arketa tis Marias
    studies enough the. GEN Mary. GEN

b. %Tis Marias, # dhen tis meletai o Yanis arketa
    the. GEN Mary. GEN NEG CL.3SG. FEM. GEN studies the. NOM John. NOM enough

c. %Dhen tis meletai o Yanis arketa, # tis Marias
    NEG CL.3SG. FEM. GEN studies the. NOM John. NOM enough the. GEN Mary. GEN
   ‘John doesn’t study enough for Mary’s sake.’

(iv) Unlike genitive arguments (86), ethical datives do not undergo A-bar movement (87).

(86) a. Recipient DOC

   Pianis edhoses to vivlio?
   who. FEM. GEN gave.2SG the. ACC book. ACC
   ‘To whom did you give the book?’
b. **Benefactive DOC**

*Pianis* fitepes luludhia?

who.FEM.GEN planted.2SG flowers.ACC

‘For whom did you plant flowers?’

c. **Malefactive DOC**

*Pianis* estises mia farsa?

who.FEM.GEN set.2SG a.ACC prank.ACC

‘On whom did you set a prank?’

(87) a. *Pianu* filises tin (Michelioudakis and Sitaridou 2008:5)

who.MASC.GEN kissed.2SG the.ACC

Keti?

Kate.ACC

‘For whose sake / on whose behalf did you kiss Kate?’

b. *Pianis* padreftike i mikri tis adherfi?

who.FEM.GEN married.NON-ACT.3SG the.NOM young.NOM POSS.3SG.FEM sister.NOM

‘To whose delight/disappointment did her little sister get married?’

(v) Ethical datives can marginally co-occur with a DP argument in genitive case.

(88) %Mi *mu* tis (Michelioudakis and Sitaridou 2008:6)

NEG CL.1SG.GEN CL.3SG.FEM.GEN

agorazete pagota tis Elenis

buy.3SG.IMP ice creams.ACC the.GEN Helen.GEN

‘Don’t buy ice creams for Helen, for my sake.’

(vi) Unlike genitive arguments (89a), ethical datives cannot bind the direct object (89b).
(89) a. Mu_i edhikse ton eafto mu_i (Michelioudakis and Sitaridou 2008:5)
    CL.1SG showed.3SG myself.ACC
    ston kathrefti
    in:the.ACC mirror.ACC
    ‘He/she showed me myself in the mirror.’
b. *Na mu_i prosechis ton eafto mu_i
    to CL.1SG take:care.2SG myself.ACC
    ‘That you take care of myself for my sake.’

As in other languages, ethical datives in Greek involve conventional implicatures (Michelioudakis and Sitaridou 2008). As example (90) shows, the presence of the ethical dative *mu* makes no difference to the truth-conditional meaning of the conditional: independently of the presence or absence of *mu*, Nick will receive $20 from the speaker, if the hearer kisses Kate.\(^{105}\)

(90) a. An *mu* filisis tin Keti, tha dhoso sto Niko $20
    if 1SG.GEN kiss.2SG the.ACC Kate.ACC FUT give.1SG to:the.ACC Nick.ACC $20
    ‘If you kiss Kate for my sake / on my behalf, I will give Nick $20.’
b. An filisis tin Keti, tha dhoso sto Niko $20
    if kiss.2SG the.ACC Kate.ACC FUT give.1SG to:the.ACC Nick.ACC $20
    ‘If you kiss Kate, I will give Nick $20.’

There are three syntactic accounts of Greek ethical datives, which I summarize below. While Catsimali (1989) argues that ethical datives in Greek are CP-adjuncts, Antonopoulou and Sifianou (2000) analyze ethical datives as a subtype of genitive IOs or possessor datives.

\(^{105}\) Bosse et al. (to appear) use conditionals among other diagnostics to classify dative non-selected arguments based on their contribution to the truth-conditional meaning of the clause they appear in.
Although Catsimali’s account is appealing, it does not explain why ethical datives are realized only as clitics.

The most recent account of ethical datives is by Michelioudakis and Sitaridou (2008), who analyze ethical datives as discontinuous non-core arguments with an overt part in the specifier of a third applicative head, introduced between $v$ and Pylkkänen’s (2002, 2008) high applicative head, and a null counterpart in the specifier of Cinque’s (1999) EvalP. Michelioudakis and Sitaridou assign restricted semantics to the third Appl head (only a function that essentially restates the semantics of its complement, i.e. the event), while the non-truth-conditional content comes from the Eval head, as is the case with evaluative adverbs. According to Michelioudakis and Sitaridou, the abstract argument in [Spec, EvalP], being null, necessarily underspecifies the precise content of the evaluative attitude and calls for pragmatic enrichment, depending on the semantics of the event and the context of the utterance.

In Chapter 1, I argued against treating ethical datives as applicative constructions crosslinguistically. The distinct morpho-syntactic behavior of ethical datives in Greek, presented above, provides ample evidence against analyzing ethical datives as arguments in the sense that a thematic applicative is: ethical datives cannot get doubled by a DP, or extracted, and, as Sitaridou (1998) argues, they do not get a thematic role, since they do not affect the truth conditional meaning of the sentence and often they invoke the speaker or addressee as witness or vaguely affected party. Thus, the first question an analysis of ethical datives as applicatives must answer is why the projection hosting ethical datives should be called applicative. It hosts none of the traditional applicative roles, and it cannot be occupied by arguments.

Here, I preliminarily argue that Greek ethical datives are defective realizations of an argument-introducing head (Embick 2004, Boneh and Nash 2011). An argument-introducing head is spelled out as a clitic when it lacks the specifier occupied by a referential argument.

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106 Cinque’s (1999) EvalP is the projection that introduces evaluative adverbs.
107 Along the lines of Jaeggli (1986), Suñer (1988), among others, I assume that the option of having a DP in a Case position doubled by a clitic indicates the argumental status of the clitic.
non-thematic domain\textsuperscript{108} in which the projection that introduces ethical datives finds itself prohibits adding new event arguments. Evidence that ethical datives are merged above $\nu$ is given by examples such as (91) where ethical datives take scope over constituents including the external argument. Merging the ethical dative above the proposition $\nu P$ puts it outside the event argument and the subject.

(91) \textsuperscript{(Michelioudakis and Kapogianni 2010:8)}

O Papandreu $mu$ archise ke tis patriotikes korones. An itan o Karatzaferis sti thesi tu den tha to scholiaza.

‘Papandreu started talking patriotic bullshit to my disappointment. If this came from Karatzaferis (=a nationalist leader), I wouldn’t bother.’

Ethical datives are also independent of the CP/Mood-system, since they may appear in embedded clauses, such as $na$-clauses\textsuperscript{109} (92a) and embedded $wh$-questions (92b), and imperatives (92c), suggesting thus a lower position.

(92) a. Thelo $na$ mu $filisis$ ti Maria

\begin{verbatim}
want.1SG to CL.1SG.GEN kiss.2SG the.ACC Mary.ACC
\end{verbatim}

‘I want you to kiss Mary for my sake / on my behalf.’

b. Ton rotises pia apo tis kores tis

\begin{verbatim}
CL.3SG.MASC.ACC asked.2SG who.SG.FEM.ACC of the.ACC daughters.ACC POSS.3SG.FEM
\end{verbatim}

$mu$ $filise$?

\begin{verbatim}
CL.1SG.GEN kissed.3SG
\end{verbatim}

‘Did you ask him which one of her daughters he kissed for my sake / on my behalf?’

\textsuperscript{108} Traditionally, $\nu P$-VP is the thematic-domain of the predicate.

\textsuperscript{109} I follow Roussou (2009) in assuming that $na$ ‘to’ is a morpheme situated in the left periphery, more precisely in Mood.
c. Filise mu ti, otan ti dhis
kiss.2SG.IMP CL.1SG.GEN CL.3SG.FEM.ACC when CL.3SG.FEM.ACC see.2SG
‘Kiss her for my sake / on my behalf, when you see her.’

To conclude, in this section, based on abundant syntactic and semantic evidence, I have argued that ethical dative constructions in Greek should not be analyzed as applicative constructions, contrary to what has been proposed by Michelioudakis and Sitaridou (2008), Mavrogiorgos (2010), and Michelioudakis and Kapogianni (2010). Furthermore, I have shown that ethical datives in Greek are introduced above vP, the thematic domain of the clause, but also appear not to be related to the CP/Mood system.

4.6 Summary

In this chapter I have proposed that Greek has two types of applied arguments, raising and thematic. Raising applied arguments are recipient arguments, realized as accusative DPs, while thematic applied arguments may be realized either as genitive DPs or complements of the preposition se ‘to’. I further showed that recipient genitive and se-PP arguments share the same underlying position with accusative recipients, but unlike accusative recipients do not raise to [Spec, ApplP]. This novel account of Greek applicative constructions preserves Anagnostopoulou’s (2003, 2005) single structural position for applicative heads above the lexical VP, but at the same time it explains the semantic evidence for distinct types of applied arguments in Greek (recipients, beneficiaries, maleficiaries, possessor datives).

In addition, I have shown that the raising/thematic applicative hypothesis accounts for two different grammars of Greek DOCs: (i) grammar 1 that allows theme passivization, and (ii) grammar 2 that does not, unless special locality conditions (cliticization of the recipient IO) apply. The data of grammar 2 have been extensively discussed in Anagnostopoulou (2003,
2005), among others, and have been empirically supported by magnitude estimation studies, presented in this chapter. The data of grammar 1 have been presented in recent papers by Georgiafentis and Lascaratou (2007) and Kupula (2011), and further been supported in this chapter by a corpus study, using the web as a corpus.

The chapter closed with a discussion of Greek “ethical datives”, which I argued should not be analyzed as applied arguments, thus supporting an economical theory of applicative constructions with no more than a single applicative head.
CHAPTER 5
CONCLUSION

This dissertation has investigated the exact properties of the syntactic architecture of applicative / extra-object constructions in the research tradition initiated by Marantz 1993, in which a light verb head, the so-called “applicative” head, is charged with the tasks of adding an extra object to a clause and assigning a thematic role. Generalizing across researchers, applicative heads play two semantic and two syntactic roles: (i) they may relate an argument and an event, (Pylkkänen’s 2002, 2008 high applicative) or two arguments (Pylkkänen’s low applicative), and (ii) they may introduce arguments or syntactically license DPs in VP.

Using data from languages with overt (affixal and non-affixal) and non-overt applicative morphology, I have expanded Georgala’s et al. (2008) approach to extra-object constructions, according to which the projection involved in licensing extra-object constructions is uniformly above the lexical VP. Under this approach, which I call raising/thematic applicative hypothesis, the contrast between Pylkkänen’s (2002, 2008) high and low applicatives is that while the former introduces an additional argument above VP, as per Pylkkänen’s original analysis, the latter functions as an expletive head, introducing no additional argument but serving as a licenser for the highest eligible DP selected by the lexical verb. There are two main advantages of this treatment of applicative constructions:

1. It preserves Pylkkänen’s insight that the core arguments in low applicatives (theme and recipient) are introduced in the domain of the lexical verb.

2. It is economical in that it posits a single structural position for applicative heads. In specific languages such as German and Greek, this simplified version of applicative architecture appears to be able to account for a wider body of data than the more complicated versions that propose multiple applicative heads to capture the semantics and syntax of the different types of extra arguments.

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Applicative constructions are subject to diverse constraints (e.g., on word order, passivization, pronominalization, wh-movement, etc.), which vary depending on the language and on the type of applicative. Thus, they provide a fascinating empirical challenge for any syntactic approach that strives for simplicity and transparency such as the raising/thematic applicative hypothesis. Here, I have focused on showing how the raising/thematic applicative hypothesis accounts for passive movement in applicative constructions, based on the key distinction between symmetric (both objects get passivized) and asymmetric (either the direct object or the extra object gets passivized). Accounting for this crosslinguistic and intralinguistic variation has been one of the main goals of this dissertation.

The most challenging task in accounting for the passivization patterns of applicative constructions has been to explain what allows the direct object to skip the extra object and move to the subject position in a theory which assumes (i) that the universal order of objects is IO>DO, and (ii) movement of the extra (higher) object follows from standard locality constraints. Following McGinnis 1998, Anagnostopoulou 2003, Doggett 2004, Citko 2008, among others, I proposed that the best solution to this problem is a combination of the two most prominent strategies featuring in the recent literature: an “escape hatch”-based one and a Case-based one. By utilizing the main assumptions of the raising/thematic applicative hypothesis, namely that Appl has an EPP feature and may have a Probe, along with the more general assumptions that the order of EPP and Agree, as well as Move and Merge may be free, I classified extra-object constructions based on how they are syntactically licensed as follows:
Table 1: Types of passives of extra-object constructions and their syntactic licensing

<table>
<thead>
<tr>
<th></th>
<th>IO</th>
<th>DO</th>
<th>Agree/EPP</th>
<th>Merge/Move</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raising</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymmetric</td>
<td>German</td>
<td>uC, iC</td>
<td>uC</td>
<td>Agree&gt;EPP</td>
</tr>
<tr>
<td></td>
<td>Mandarin</td>
<td>uC</td>
<td>uC</td>
<td>Agree&gt;EPP</td>
</tr>
<tr>
<td></td>
<td>SAE</td>
<td>uC</td>
<td>uC</td>
<td>EPP&gt;Agree</td>
</tr>
<tr>
<td><strong>Symmetric</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IO, DO BE</td>
<td>uC</td>
<td>uC</td>
<td>EPP, Agree</td>
<td>N/A</td>
</tr>
<tr>
<td>None, Greek</td>
<td>iC</td>
<td>uC</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Thematic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymmetric</td>
<td>German</td>
<td>iC</td>
<td>uC</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Chichewa</td>
<td>uC</td>
<td>uC</td>
<td>N/A</td>
</tr>
<tr>
<td>Symmetric</td>
<td>IO, DO Swahili</td>
<td>uC</td>
<td>uC</td>
<td>N/A</td>
</tr>
<tr>
<td>None, Greek</td>
<td>iC</td>
<td>uC</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The statement that the relative ordering of operations such as EPP/Agree and Merge/Move is free has two possible interpretations. One similar to the interpretation of extrinsic rule ordering in phonology the period after the publication of Chomsky and Halle (1968). This interpretation would say that universal grammar does not fix the order of operations in question, and the grammars of particular languages, or more exactly specific structural configurations, are free to stipulate ordering. This interpretation raises immediate questions from the standpoint of language acquisition, as the need to learn the order of operations for individual structural configurations increases the burden on the learner.

The second possible interpretation of a statement such as “the relative order of EPP checking and Agree is free” is that UG stipulates no ordering of these operations, but more general principles tell the learner which operation takes place first in a particular context. This interpretation or approach is parallel to the search for general principles to account for the order of operations in phonological theory from the 1970s on.
The second interpretation is obviously the preferred one from the standpoint of language acquisition, but an accurate assessment of our current level of understanding of the operations in question is closer to the first interpretation. Independently from the extra-object constructions that are the subject of this dissertation, different researchers have proposed that EPP checking should apply first (Hasegawa 2005, among others), Agree should apply first (Rackowski 2002, among others), or the two are unordered. A similar situation obtains with respect to our current understanding of the ordering of Move and Merge (McGinnis 1998). Within the broader Principles and Parameters framework, variation of this sort is handled by positing a parameter, which fixes, for example, the order of EPP checking and Agree where the choice is relevant. The ultimate objective of the linguist is to isolate the set of parameters actually accessed by the language learner; obviously such parameters should be as broad as possible.

From this standpoint, a parameter such as [EPP>Agree/Appl], which specifies the ordering of EPP and Agree at AppP, is the starting point, rather than the endpoint of the investigation. It is beyond the scope of this dissertation to attempt to reduce each of the points of variation (each interpretable as a parameter) in Table 1 to a broader parameter. I hope to focus on such a reduction in further research.

In addition to the questions raised above, many interesting aspects of applicatives have not been addressed in this dissertation. Among them, applicative constraints other than passive movement, such as wh-movement, a property shared by applicative constructions in a wide variety of languages, as Emonds and Whitney (2006) point out. Furthermore, although I have touched upon multiple applicatives in the discussion on the morphological exponence of the applicative head, I have not in detail addressed any of the challenging issues multiple applicatives present, such as interaction among applicatives and its consequences for neutral word order and c-command relative to the theme argument. The intriguing observations that have been made about multiple applicatives (cf. Kimyeni 1980, McGinnis and Gerdts 2003, among others) remain to be captured within the framework of raising/thematic applicative hypothesis.
Another unresolved issue in this dissertation is the analysis of a variety of extra “objects”, such as ethical datives and personal/co-referential datives, which have recently been in the center of the discussion on applicative structures, and have been analyzed as such (cf. Cuervo 2003, Tsai 2010, Boneh and Nash 2011, among others). Although in my brief discussion of Greek and German ethical datives I have provided arguments against analyzing these constructions as applicatives, a concrete proposal about their syntactic structure still remains to be made. These matters, among others, invite further research.
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